

# Crater Lake National Park

National Park Service  
U.S. Department of the Interior

Crater Lake National Park  
Oregon



## Environmental Assessment

Rehabilitate Superintendent's Residence Project

November 2003



# ENVIRONMENTAL ASSESSMENT

## Rehabilitate Superintendent's Residence Project

Prepared For:  
National Park Service



Prepared By:  
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# Crater Lake National Park

## Oregon

**U.S. Department of the Interior  
National Park Service  
Draft Environmental Assessment  
Rehabilitate Superintendent's Residence Project  
Crater Lake National Park  
Klamath County, Oregon**

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### **Summary**

The National Park Service is considering rehabilitating the Superintendent's Residence for the stabilization, preservation, and adaptive reuse of the structure as a science and learning center. The proposed action involves several repairs and modifications to interior and exterior features. Crater Lake National Park headquarters is in Munson Valley, approximately three miles south of Rim Village. The park headquarters contains administrative offices, utility buildings, and employee housing for Crater Lake National Park. The property is owned and managed by the National Park Service.

The proposed action is needed to bring the structure into compliance with current safety requirements, appropriate building codes, and Uniform Building Accessibility Standards; make the building inhabitable; and to rehabilitate the deteriorated interior.

The Superintendent's Residence was built in 1932, and was designated as a National Historic Landmark in 1987. In 1988, the Munson Valley Historic District, which contains the park headquarters area, was listed on the National Register of Historic Places.

This environmental assessment examines in detail two alternatives: no action and rehabilitation of the Superintendent's Residence (the National Park Service preferred alternative).

Topics to be considered for analysis in the environmental assessment include: vegetation, cultural landscapes, historic structures, health and safety, park operations, soils, and visitor use and experience. Since the majority of the proposed measures are interior treatments, the following resource topics have been determined to either not exist in the project area, or would not be affected by the proposed project: air quality, archeological resources, concessions operations, ecological critical areas, wildlife, threatened and endangered species, environmental justice, ethnographic and Indian Trust resources, land use, floodplains, geological resources, lightscapes, prime and unique farmlands, scenic resources, socioeconomics, soundscapes, wetlands, and water quality.

The preferred alternative would have short-term, adverse, and negligible impacts on health and safety and visitor use and experience. There would be short-term, minor, adverse impacts on cultural landscapes, vegetation, and park operations, and negligible to minor, adverse impacts to soils. All impacts associated with the preferred alternative would be localized to the site of the historic Superintendent's Residence or the park. There would be long-term, negligible to minor, adverse impacts to park operations. There would be long-term, minor, beneficial effects to cultural landscapes, soils, health and safety, and visitor use and experience. There would be short-term, minor to moderate, adverse impacts and long-term, moderate, beneficial effects to the historic structures.

### **Notes to Reviewers and Respondents**

This environmental assessment is available on the Crater Lake National Park Internet Web site at <http://www.nps.gov/crla/SuptResidenceEA.htm>. It is being distributed for public and agency review and comment for a period of 30 days.

If you wish to comment on the environmental assessment, you may mail comments to the name and address below. Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the record, which we will honor to the extent allowable by law. *If you want us to withhold your name and address, you must state this prominently at the beginning of your comment.* We will make all submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Please address comments to: Charles V. Lundy, Superintendent; Crater Lake National Park; Attn: Rehabilitate Superintendent's Residence Project; Post Office Box 7; Crater Lake, OR 97604

E-mail: [CRLA\\_\\_superintendent@nps.gov](mailto:CRLA__superintendent@nps.gov)



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## **ACRONYMS AND ABBREVIATIONS**

ADA	Americans with Disabilities Act
CFR	Code of Federal Regulations
°F	Degrees Fahrenheit
NEPA	National Environmental Policy Act of 1969
NPS	National Park Service
NRHP	National Register of Historic Places
USC	United States Code



## INTRODUCTION

### PURPOSE AND NEED FOR ACTION

Crater Lake National Park headquarters is located in Munson Valley, approximately three miles south of Rim Village (figure 1). The park headquarters contains administrative offices, utility buildings, and employee housing for Crater Lake National Park. The property is managed by the National Park Service (NPS).

The National Park Service is considering rehabilitating the Superintendent's Residence at park headquarters for the stabilization, preservation, and adaptive reuse of the structure as a science and learning center. The science and learning center is planned as an interdisciplinary facility that will facilitate science and unite it with place-based learning and appreciation. The proposed action involves several repairs and modifications to interior and exterior features. The superintendent's residence is a National Historic Landmark and the proposed modifications and rehabilitation efforts would follow the *Secretary of the Interior's Standards for Rehabilitation of Historic Properties*.

The proposed action is needed for two reasons. First, to ensure the continued preservation of the structure and, second, to bring the structure into compliance with current safety requirements, appropriate building codes, and Uniform Building Accessibility Standards; make the building inhabitable; and rehabilitate the deteriorated interior.

An environmental assessment analyzes a preferred alternative and a no-action alternative and their potential impacts on the environment. This environmental assessment has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended; regulations of the Council on Environmental Quality (40 *Code of Federal Regulations* (CFR) 1508.9); and the National Park Service Director's Order -12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* and Director's Order - 28: *Cultural Resource Management Guideline*.

### PARK PURPOSE, SIGNIFICANCE, AND MISSION

An essential part of the planning process is understanding the purpose, significance, and mission of the park for which this environmental assessment is being prepared.

#### Park Purpose

Park purpose statements are based on national park legislation, legislative history, and National Park Service policies. The statements reaffirm the reasons for which the national park was set aside as a unit of the national park system, and provide the foundation for national park management and use.



FIGURE 1. PARK MAP AND PROJECT SITE

Crater Lake National Park was established in 1902 “...dedicated and apart forever as a public park or pleasure ground for the benefit and enjoyment of the people of the United States.” In managing this park, the National Park Service is charged with “...preservation of the natural objects ...the protection of the timber, and ...the preservation of all kinds of game and fish.” The National Park Service is committed to “...forever preserve the beauty of Crater Lake National Park; its unique ecological and

cultural heritage; and to foster understanding and appreciation through enjoyment, education and inspiration.” The National Park Service Organic Act of 1916 directs that the fundamental purpose of all parks is “to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS 2002c).

## **Park Statement of Significance**

Park significance statements capture the essence of the national park’s importance to the natural and cultural heritage of the United States of America. Significance statements do not inventory park resources; rather, they describe the park’s distinctiveness and help place the park within the regional, national, and international context. Defining park significance helps managers make decisions that preserve the resources and values necessary to accomplish the purpose of Crater Lake National Park.

- Crater Lake is one of the most renowned lakes on earth, principally because of the beauty imparted by its large size, blue color, mountain setting, and ever-changing character.
- Crater Lake lies in a caldera that was left by the climactic eruption and collapse of Mount Mazama more than 7,700 years ago. The circular lake that formed in the caldera, is considered by scientists to be a unique model for how small calderas evolve over geologic time. At a depth of 1,943 feet, Crater Lake is the seventh-deepest lake in the world, and holds the world record for clarity among lakes.
- In addition to the lake, most of the forests that surround Crater Lake remain unlogged and are largely preserved in their pristine condition. These mature forests harbor a variety of plant and animal life, which are characteristic of higher elevations in the Cascade Range. Because extensive alteration of forestland has taken place elsewhere in the Cascade Range, some of these plants and animals are rare. Those forests within the park boundary add unique opportunities for solitary and wilderness experiences.
- Some of the nation’s best examples of blending rustic architecture and other built features within a national park setting can be seen at Rim Village and at park headquarters in Munson Valley. Most of the structures at Rim Village and Munson Valley are listed on the National Register of Historic Places (NRHP).
- Crater Lake is of enduring importance to contemporary members of American Indian tribes because of its centrality to long-standing cultural traditions and resource harvesting activities, as well as its symbolic significance as a sacred site. The park is part of a larger cultural landscape that extends well beyond park boundaries.
- Crater Lake has been the object of scientific study for more than a century, and is unique for the scientific research related to its pristine waters, associated geothermal activities, and unusual aquatic organisms.
- The unique natural and cultural resources of Crater Lake National Park provide exemplary opportunities for students and educators (NPS 2002c).

## **Park Mission**

## INTRODUCTION

Park purpose describes the specific reason the park was established. Park significance is the distinctive features that make the park different from any other. Together, purpose and significance lead to a concise statement—the mission of the park. Park mission statements describe conditions that exist when the legislative intent for the park is being met.

The park mission for Crater Lake National Park includes: “to forever preserve the beauty of Crater Lake National Park, its unique ecological and cultural heritage, and to foster understanding and appreciation through enjoyment, education, and inspiration” (NPS 2000b).

## PROJECT BACKGROUND

The Superintendent’s Residence was built in 1932 (completed in 1933), and was designated as a National Historic Landmark in 1987 because it is one of the finest examples of rustic architecture in the nation. The structure’s component landscape is significant for its association with early federal administration and development of a national park. As a part of the first master plan for the park, and part of park headquarters, the Superintendent’s Residence was an important element in the administrative development of Crater Lake National Park. The structure is also significant for its association with a distinctive style and method of construction known as the rustic style of architecture and naturalistic style of landscape design. Designed by park architect A. Paul Brown and park landscape architects Merel Sager and Francis Lange, the Superintendent’s Residence is an excellent example of both architecture and naturalistic style of landscape design (Crater Lake National Park Cultural Landscape Inventory 2000). National Historic Landmark status is the highest level of importance assigned to historic properties. Properties are designated National Historic Landmarks only if they are nationally significant and illustrate important contributions to the nation’s historical development. The historic importance of potential landmarks is evaluated by the National Park Service and the National Park System Advisory Board twice yearly at meetings that are open to the public. The advisory board includes citizens who are national and community leaders in the conservation of natural, historic, and cultural areas. Recommendations by the advisory board are made to the Secretary of the Interior on potential National Historic Landmarks. Final decisions regarding National Historic Landmark designation are made by the Secretary of the Interior.

In 1988, the Munson Valley Historic District, which contains the park headquarters area, was listed on the NRHP. The NRHP nomination designated 18 buildings constructed between 1926 and 1941 in the rustic style that contribute to the significance of the district. As a district, these buildings are representative of rustic architecture built in the national parks during the Hoover Administration and New Deal programs of the Depression era. Subsequent landscape analyses have expanded on the significance of this district as a designed landscape (NPS 1990a).

In 1985, a condition assessment was conducted for the Superintendent's Residence. The interior was described as "in extremely dilapidated condition." In 1998, a condition survey was performed on the residence. Deficiencies were noted in the areas of roof structure, roof shakes, roof sheathing, electrical, structural, and heating and ventilation. The building was determined to be uninhabitable. Neither of these surveys led to major renovation of the structure due to funding constraints and because the building was unoccupied. In early 2000, the idea to develop a science and learning center at Crater Lake National Park was conceived. The Superintendent's Residence was designated as the building to house the center as an adaptive reuse for the building. The science and learning center would serve as a clearinghouse for educational information and techniques, and be the catalyst to encourage interdisciplinary investigations and education.

During 2002 and 2003, a historic structures report was developed for the residence. The report describes the character defining features, again assessed the condition of the structure, described requirements for treatment, and alternative treatments. This assessment provides the basis for the proposed action (NPS June 2003).

The Value Engineering and Choosing by Advantages study was completed for the Crater Lake National Park rehabilitation in 2002 (PMIS 4237/Pkg. 272; PMIS 059918/Pkg. 455). Rehabilitation of the historic Superintendent's Residence for use as a science and learning center would serve as the administrative and public focal point for the learning center. Value study objectives included:

- Provide for adaptive use of the Superintendent's Residence as a science and learning center.
- Rehabilitate the structure in accordance with the *Secretary of the Interior's Standards for Rehabilitation of Historic Properties*.
- Select appropriate preservation actions for the Superintendent's Residence.

## SCOPING

Scoping is the effort to involve agencies and citizens in determining the nature and extent of issues to be addressed in this environmental assessment. Scoping determines important issues and eliminates issues that are not important; allocates assignments among the interdisciplinary team members and/or other participating agencies; identifies related projects and associated documents; identifies permits, surveys, consultations, etc. required by other agencies; and creates a schedule that allows adequate time to prepare and distribute the environmental assessment for public review and comment before a final decision is made. Scoping includes any interested agency, or any agency with jurisdiction by law or expertise to obtain early input.

Staff of Crater Lake National Park, architectural and environmental contractors, and resource professionals of the National Park Service – Denver Service Center, conducted internal scoping. This interdisciplinary process defined the purpose and need, identified potential actions to address the need, determined the likely issues and impact topics, and identified the relationship of the proposed action to other planning efforts at the park.

This environmental assessment will be released for public comment. American Indian groups, traditionally associated with the lands of Crater Lake National Park, will also have an opportunity to review and comment on this environmental assessment.

The undertakings described in this document are subject to section 106 of the National Historic Preservation Act, as amended in 1992 (16 *United States Code* (USC) 470 *et seq.*). Consultation with the

## INTRODUCTION

Oregon State Historic Preservation Office will be ongoing through the design process. This environmental assessment will also be submitted to the Oregon State Historic Preservation Office for review and comment. The Advisory Council on Historic Preservation may elect to enter the consulting process in the event of disagreement between the National Park Service and Oregon State Historic Preservation Office.

## RELATED NATIONAL PARK SERVICE PLANNING DOCUMENTS

Crater Lake National Park is preparing a general management plan. Park planning is a decision-making process, and general management planning is the broadest level of decision making for parks. General management plans are intended to establish the management direction of a park for the next 15 to 20 years. General management planning is the first phase of tiered planning and decision making, focusing on why the park was established (purpose and mission), why it is special (significance), and what resource conditions and visitor experiences should be achieved and maintained (desired conditions). This proposed project supports the overall management direction of the park and statements of significance.

## ISSUES AND IMPACT TOPICS

### Issues

Issues and concerns related to this proposal were identified from past planning efforts, input from park employees, the public, and state and federal agencies. The major issues relate to potential impacts to vegetation, cultural/historic resources, health and safety, park operations, soils, and visitor use and experience.

### Derivation of Impact Topics

Specific impact topics were selected to focus discussion and to allow comparison of the environmental consequences of each alternative. These impact topics were identified based on federal laws, regulations, and executive orders; *2001 NPS Management Policies*; National Park Service knowledge of special or vulnerable resources, and scoping. A brief rationale for the selection of each impact topic is given below, as is the rationale for dismissing specific topics from further consideration.

## IMPACT TOPICS SELECTED FOR DETAILED ANALYSIS

### Vegetation

NEPA calls for an examination of the impacts on all components of affected ecosystems. National Park Service policy is to protect the components and processes of naturally occurring vegetation, including the natural abundance, diversity, and ecological integrity of plants and animals (NPS Management Policies 2001a).

The preferred alternative has the potential to impact vegetation as a result of the work associated with construction of a walkway and entrance ramp in accordance with the American with Disabilities Act (ADA). A small area of meadow and trees would be disturbed during construction of the new ADA path. A new sewerline to service the residence will also be constructed and the construction has the potential to affect vegetation. Since the preferred alternative has the potential to affect vegetation, this impact topic is addressed in the environmental assessment.

### Soils

All available information on soils potentially impacted was compiled. The preferred alternative includes an ADA-accessible path from the parking area to the back door and a new sewerline to service the residence. The restoration of historic landscaping that would occur as part of the preferred alternative would also impact soils. Because of potential impacts to soil resources, soils is addressed as an impact topic in this environmental assessment.

### Cultural Resources

Cultural resources are defined by the National Historic Preservation Act as prehistoric and historic sites, structures, districts, or any other physical evidence of human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason. Included in this definition are archeological resources, cultural landscapes, ethnographic resources, historic resources, architectural resources, and traditional cultural properties. Depending on the condition and historic use, such resources can provide scientific data regarding the living conditions and lifeways of previous civilizations and/or may retain cultural and religious significance to modern groups. The National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*), NEPA, National Park Service Organic Act, *NPS Management Policies* (2001), Director's Order – 12: *Conservation Planning, Environmental Impact Analysis and Decision-making* (2001), and Director's Order – 28: *Cultural Resources Management Guideline* require the consideration of impacts on cultural resources, either listed in or eligible to be listed in, the NRHP.

Only those cultural resources determined to be significant are subject to analysis during the environmental assessment process. Significant cultural resources are those that meet one or more of the criteria defined in Part 36 of the *Code of Federal Regulations* (Section 60.4) for inclusion on the NRHP. The general criteria for the determination of significance for cultural resources are based on several qualities, including uniqueness, association with important historic persons or events, the degree of integrity that the resource retains, its setting, and the resource's potential to retain important scientific data.

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The structure is a National Historic Landmark and, therefore, the project is primarily a National Historic Preservation Act, section 106 project. The analysis procedures under NEPA and the National Historic Preservation Act are slightly different (see Environmental Consequences, Impacts to Cultural Resources, and section 106 of the National Historic Preservation Act. The National Historic Preservation Act and NEPA analysis is presented collectively in relevant impact sections).

### Cultural Landscapes

As described by National Park Service Director's Order – 28: *Cultural Resource Management Guideline*, a cultural landscape is: "...a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined, both by physical materials such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions."

The structure's component landscape is significant for its association with early federal administration and development of a national park. As a part of the first master plan for the park, and part of park headquarters, the Superintendent's Residence was an important element in the administrative development of the park. Subsequent landscape analyses expanded the significance of the Munson Valley District as an NRHP-eligible designed landscape (NPS 1990a; NPS 1991).

The preferred alternative (rehabilitation) includes an ADA access through the back porch entrance and an ADA-accessible path from the parking area to the back door. A small area of designed meadow would be disturbed for the new ADA path. The preferred alternative would also result in short-term disturbances associated with placement of the new sewerline and outside rehabilitation work for the building. The historic landscape surrounding the building would be restored. All of these actions have the potential to affect the cultural landscape, so this impact topic is addressed in the environmental assessment.

### Historic Structures

The Superintendent's Residence was built in 1932, and was designated as a National Historic Landmark in 1987 because of its outstanding example of rustic architectural design. In 1988, the Munson Valley Historic District, which contains the park headquarters area, was listed on the NRHP. This nomination designated 18 buildings constructed between 1926 and 1941. As a district, these buildings are representative of rustic architecture built in the National Parks.

The preferred alternative would provide for the preservation, stabilization, and adaptive reuse of the historic Superintendent's Residence for use as a science and learning center. A complete discussion of the rehabilitation work planned for the structure is contained in the discussion of "Alternative B: Preferred Alternative" in the following section. Because the preferred alternative would have an impact on a NRHP structure, this impact topic is addressed in detail in the environmental assessment.

### Health and Safety

The preferred alternative would provide for the preservation, stabilization, and adaptive reuse of the historic Superintendent's Residence as a science and learning center. The building is currently uninhabitable and does not meet safety standards for the protection of human life in the event of an emergency such as a fire or seismic event (current safety requirements). This action is needed to

rehabilitate the deteriorated interior portions of the structure, provide structural stabilization, address seismic deficiencies for safety, and bring the building into compliance with current safety codes. Most of the proposed treatments would involve the interior of the building. Therefore, health and safety is addressed as an impact topic in this environmental assessment.

## **Park Operations**

Park operations include ranger patrols, guided walks, visitor information and orientation, resource management, snow removal, building and infrastructure maintenance, and other activities. Park operations, for the purpose of this analysis, refer to the quality and effectiveness of the infrastructure, and the ability to maintain the infrastructure used in the operation of the park in order to adequately protect and preserve vital resources and provide for a safe and enjoyable visit. This includes an analysis of the condition and usefulness of the facilities and developed features used to support the operations of the park. Facilities encompassed in this project include the Superintendent's Residence and supporting water, sewer, electrical, telephone, and heating systems, as well as pedestrian and vehicle access.

The preferred alternative would provide adaptive reuse of the Superintendent's Residence for use as a science and learning center. The preferred alternative would not affect any other park facilities; however, use of the structure would require additional maintenance and support not currently allocated for an unused building. Both the no-action and preferred alternatives have the potential to affect park facilities and operations, therefore, this impact topic is addressed in detail.

## **Visitor Use and Experience**

*NPS Management Policies* (2001) state that the enjoyment of park resources and values by the people of the United States is part of the fundamental purpose of all parks, and that the National Park Service is committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks.

Part of the purpose of Crater Lake National Park is to offer opportunities for recreation, education, inspiration, and enjoyment. Consequently, one of the park's management goals is to ensure that visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities.

The preferred alternative would provide for the preservation, stabilization, and adaptive reuse of the Historic Superintendent's Residence in Munson Valley for use as a science and learning center. Munson Valley is primarily a Park Service administration, maintenance, and housing area rather than a visitor use area. The visitor experience in Munson Valley is focused on the Steel Information Center, access to the Castle Crest Wildflower Trail and Lady of the Woods Trail, and the Park Headquarters Historic Walking Tour. Views of the building are featured along the Park Headquarters Historic Walking Tour. When rehabilitation of the residence is completed, a short spur trail would be built to connect the Superintendent's Residence with the existing loop trail in order to enhance access to the building by the general public. The walking tour has been identified as an important component of existing planning efforts; as such, visitor use and experience is addressed as an impact topic.

## **IMPACT TOPICS DISMISSED FROM DETAILED ANALYSIS**

[NOTE: All resources described in impact topics dismissed in this document will not be included or described in the "Affected Environment" section of this environmental assessment.]

## **Archeological Resources**

There are known archeological resources within the park (NPS 1999b). Because most of the proposed treatments would involve the interior of the building and because no known prehistoric resources or archeological sites exist in or in proximity of the Superintendent's Residence, archeological resources were dismissed as an impact topic.

Should unknown archeological resources be uncovered during construction, work would be halted in the discovery area, the site secured, and Crater Lake National Park would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. In compliance with the Native American Graves Protection and Repatriation Act of 1990, the National Park Service would also notify and consult concerned tribal representatives for the proper treatment of human remains, funerary, and sacred objects should these be discovered during the course of the project.

## **Ethnographic Resources**

The National Park Service defines ethnographic resources as any "site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it" (Director's Order – 28: *Cultural Resource Management Guideline*, p.191). Because no ethnographic resources are known to exist in or in proximity to the project area, ethnographic resources were dismissed as an impact topic

## Air Quality

The 1963 Clean Air Act, as amended (42 USC 7401 *et seq.*), requires land managers to protect air quality. *NPS Management Policies* address the need to analyze potential impacts to air quality during park planning. National ambient air quality standards exist for sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and inhalable particulate matter. There are also standards for the prevention of significant deterioration of air quality. Increments exist for both Class I and Class II areas, with more stringent parameters prescribed for Class I areas. Crater Lake National Park has very low air pollution levels and was designated Class I under the 1963 Clean Air Act, as amended. A Class I area is subject to the most stringent regulations of any designation. Class I areas must not exceed the maximum allowable increment over baseline concentrations of sulfur dioxide and particulate matter, as specified in section 163 of the 1963 Clean Air Act. The state of Oregon manages for ground-level ozone (smog), carbon monoxide, and fine particulate matter.

Most of the proposed treatments would involve the interior of the building. Exterior treatments include shutters, the garage door and structural beam, ADA access through the back porch entrance, and an ADA-accessible path from the parking area to the back door. The most extensive anticipated construction considerations would be the additional structural bracing needed to meet seismic standards. Overall, impacts to air quality from dust and construction equipment emissions would be negligible and temporary and very localized. These effects would last only as long as the rehabilitation of the Superintendent's Residence, and the park's Class I air quality would not be affected by the proposal. Therefore, air quality was dismissed as an impact topic.

## Concessions Operations

All of the concession facilities and services at Crater Lake National Park take place at Rim Village, Mazama Village, and Cleetwood and are currently operated by a private concessioner (Crater Lake Lodge, Inc.). The historic Superintendent's Residence is located in Munson Valley where no concessions facilities exist. Therefore, concessions operations were dismissed as an impact topic.

## Ecologically Critical Areas, Wild and Scenic Rivers, Other Unique Natural Areas

There is proposed critical habitat for the bull trout outside of the project area. There are not any existing or potential Wild and Scenic Rivers within the park. Crater Lake is an important natural area and has unique and fragile areas including Llao Rock, Pumice Desert, Desert Creek, and Sphagnum Bog Research Natural Areas. The preferred alternative would not impact the qualities and resources that make these areas or Crater Lake National Park special. This topic was, therefore, dismissed from detailed analysis.

## Wetlands

Executive Order 11990 (*Protection of Wetlands*) requires an examination of impacts to wetlands. Wetlands are "lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface" (USFWS 1979). The 2001 *NPS Management Policies* (NPS 2001), Director's Order – 2: *Planning Guidelines*, and Director's Order – 12: *Conservation Planning, Environmental Impact Analysis and Decision-making* provide guidelines for proposals in wetlands.

Wetlands currently exist 150 feet behind the historic Superintendent's Residence. Although the exact location of the proposed ADA path has not been determined, wetland boundaries would be delineated and wetlands would be avoided. Therefore, this resource was dismissed as an impact topic.

### Environmental Justice

Executive Order 12898 (*General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*) requires all agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations or communities. The preferred alternative would not have health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency's *Draft Environmental Justice Guidance* (July 1996). Environmental justice was dismissed from detailed analysis.

### Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a preferred alternative or action by Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

There are no Indian trust resources in Crater Lake National Park. The lands comprising Crater Lake National Park are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, Indian trust resources was dismissed as an impact topic.

### Floodplains and Water Quality

Floodplains are defined by the *National Park Service Floodplain Management Guideline* (1993) as "the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, and including, at a minimum, that area subject to temporary inundation by a regulatory flood." Executive Order 11988 (*Floodplain Management*) requires an examination of impacts to floodplains and potential risk involved in placing facilities within floodplains. *NPS Management Policies*, Director's Order – 2: *Planning Guidelines*, and Director's Order – 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* provide guidelines for proposals in floodplains. The National Park Service has adopted the policy of preserving floodplain values and minimizing potentially hazardous conditions associated with flooding (*National Park Service Floodplain Management Guideline*, July 1, 1993).

The 1972 Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, is a national policy to restore and maintain the chemical, physical, and biological integrity of the nation's waters; to enhance the quality of water resources; and to prevent, control, and abate water pollution. *NPS Management Policies* provides direction for the preservation, use, and quality of water in national parks.

The construction limits (primarily interior to the historic Superintendent's Residence) are outside of floodplains and not close to water bodies. Floodplains and water quality would not be affected by the preferred alternative; therefore, this resource was dismissed as an impact topic.

## **Geological Resources**

The proposed improvements to the historic Superintendent's Residence would not affect geologic resources or contribute to geologic hazards such as earthquakes, volcanoes, or landslides in the project area; therefore, geologic resources were dismissed from detailed analysis in this environmental assessment.

## **Lightscares**

In accordance with *NPS Management Policies* (2001), the National Park Service strives to preserve natural ambient landscapes, which are natural resources and values that exist in the absence of human-caused light. Construction would occur inside the structure and during daylight hours. There are three existing exterior lights that would be part of the rehabilitation: one each above the front and back doors, and one above the garage. The exterior lighting would reuse historic lighting fixtures and is expected to have negligible impacts on existing lightscares. This topic was dismissed from detailed analysis.

## **Prime and Unique Farmlands**

In 1980, the Council on Environmental Quality directed that federal agencies assess the effects of their actions on farmland soils classified by the U.S. Department of Agriculture's Natural Resources Conservation Service as prime or unique. Prime or unique farmland is defined as soil, which particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. There are no prime or unique farmlands associated with the project area, so this resource was dismissed from detailed analysis.

## **Scenic Resources**

In the evaluation of scenic quality, both the visual character and visual quality of a viewshed are considered. A viewshed comprises the limits of the visual environment associated with the preferred alternative. The preferred alternative does not expand or dramatically alter the visual character or visual quality of the existing Superintendent's Residence, nor does it create any changes to the scenic vistas. During the construction period, there would be effects due to the presence of construction equipment, but these effects would be short term and would occur within the existing structure footprint, only visible on the historic walking tour and, therefore, would have a negligible, temporary, and localized effect on park scenic values. This topic was dismissed from detailed analysis.

## **Socioeconomics**

Issues were identified through the scoping process and concerns covered by this section include effects on adjacent landowners and nearby towns or agencies, economic contribution of Crater Lake National Park to local economies, traditional land uses external to Crater Lake National Park boundaries, and possible conflicts between the preferred alternative and local, state, or American Indian tribal land-use plans, policies, or controls.

Neither the no-action or preferred alternative would change local or regional land use nor would it appreciably affect local economies or businesses outside the park or other agencies. Implementation of the preferred alternative could provide a negligible beneficial impact to the economies of local communities (e.g., minimal increases in employment opportunities for the construction work force and revenues for local businesses and government from construction activities and workers). Construction activities for the preferred alternative are projected to take two construction seasons to complete. Any benefit to the economy would be temporary (lasting only during construction) and negligible overall. Therefore, the socioeconomic environment was dismissed from detailed discussion.

### **Soundscapes and Noise**

National Park Service policy requires the restoration of degraded soundscapes to the natural condition whenever possible, and the protection of natural soundscapes from degradation due to noise (undesirable human-caused sound) (*NPS Management Policies 2001*, sec. 4.9). The National Park Service is specifically directed to “take action to prevent or minimize all noise that, through frequency, magnitude, or duration, adversely affects the natural soundscape or other park resources or values, or that exceeds levels that have been identified as being acceptable to, or appropriate for, visitor uses at the sites being monitored” (*NPS Management Policies 2001*, sec. 4.9). Overriding all of this is the fundamental purpose of the national park system, established in law (e.g., 16 USC 1 *et seq.*), which is to conserve park resources and values (*NPS Management Policies 2001*, sec. 1.4.3). National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values (*NPS Management Policies 2001*, sec 1.4.3).

Most of the proposed treatments would involve the interior of the building. Exterior treatments include shutters, the garage door and structural beam, ADA access through the back porch entrance, and an ADA-accessible path from the parking area to the back door. The most extensive anticipated construction considerations would be the additional structural bracing needed to meet seismic standards. Noise associated with rehabilitation activities of the historic Superintendent’s Residence would be short term and localized. The rehabilitation would result in a minor long-term increase in visitor use of the residence. The visitor use would also occur throughout the year and not just in the summer months. The building is currently located in an area of high visitor use and the increase in noise associated with increase usage of the residence is expected to provide negligible contributions to the overall noise. This impact topic was dismissed from further analysis.

### **Threatened and Endangered Species**

Under the Endangered Species Act of 1973, as amended, an *endangered species* is defined as any species in danger of extinction throughout all or a significant portion of its range. A *threatened species* is defined as any species likely to become an endangered species in the foreseeable future throughout all or a significant portion of its range. The Endangered Species Act requires an examination of impacts on all federally listed threatened or endangered species. National Park Service policy also requires examination of the impacts on federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive species. A threatened and endangered species list was obtained from the U.S. Fish and Wildlife Service for the project area. The proposed rehabilitation of the historic Superintendent’s Residence would not affect any threatened or endangered species or species of concern as indicated on the list. Therefore, threatened and endangered species was dismissed as an impact topic.

## **Wildlife**

The National Park Service Organic Act, which directs parks to conserve wildlife unimpaired for future generations, is interpreted by the agency to mean that native animal life should be protected and perpetuated as part of the park's natural ecosystem. Natural processes are relied on to control populations of native species to the greatest extent possible; otherwise they are protected from harvest, harassment, or harm by human activities. According to *NPS Management Policies 2001*, the restoration of native species is a high priority (sec. 4.1). Management goals for wildlife include maintaining components and processes of naturally evolving park ecosystems, including natural abundance, diversity, and the ecological integrity of plants and animals.

Crater Lake National Park listed 151 species of birds, 54 species of mammals, 8 species of amphibians, 4 species of reptiles, and 5 species of fish as occurring or potentially occurring within the park (NPS–Crater Lake National Park 2002).

The majority of the proposed treatments would involve the interior of the existing Superintendent's Residence. A planned ADA-accessible path and sewerline placement and restoration of historic landscaping would not impact existing wildlife in that removal of vegetation or trees suitable for wildlife use or habitation would be avoided or transplanted during construction and reclamation of the disturbance would occur upon completion. The preferred alternative would have no measurable impact on the wildlife species inhabiting Crater Lake National Park; therefore, this impact topic was dismissed from further analysis.

## **Land Use**

The Superintendent's Residence is located at Crater Lake National Park headquarters in Munson Valley. The no-action and the preferred alternative would not affect present or future park land use, or the uses of surrounding lands. Therefore, land use was dismissed as an impact topic in this environmental assessment.

## **ALTERNATIVES**

### **INTRODUCTION**

The “Alternatives” section describes two management alternatives (preferred alternative and no-action alternative) for rehabilitation of the Superintendent’s Residence. The preferred alternative was developed to meet the purpose and need for the action and resolve cultural resource issues (specifically preservation of a National Historic Landmark and cultural landscape), biology/vegetation, park facilities and operations, soils/geology, and visitor use and experience.

### **ALTERNATIVE A: NO-ACTION ALTERNATIVE**

This alternative refers to a continuation of existing conditions without implementation of the proposed action. Under the no-action alternative, general deterioration of the Superintendent’s Residence would continue (figure 2). Limited maintenance and repairs would be performed, but overall the building would continue in a state of disrepair. The identified deficiencies would continue, including the following conditions as discussed in the Historic Structures Report (NPS 2003):

- The building is currently uninhabitable and does not meet safety standards for electrical, mechanical, fire, and seismic criteria.
- The building does not have ADA access.
- The driveway slopes toward the garage, allowing water to drain into the structure, which would continue to cause maintenance problems.
- The stone walks are in fair condition, except for cracking in the mortar around the stones.
- The stone walls are original and in good condition; however, there has been some mortar repair and minor cracking is evident in the mortar.
- Interior walls and ceilings are cracking and sections of plaster have fallen.
- The roof shingles are beyond their design life.
- Insulation around electrical wiring has frayed.
- Power receptacles do not meet current safety codes.
- The heating system is beyond its service life and causes safety concerns.

The no-action alternative does not preclude short-term, minor activities that would be part of routine maintenance, but major repair work would not be implemented.

Under the no-action alternative, the Superintendent’s Residence would remain uninhabitable due to its condition. The structure would continue to degrade without significant repairs. The building would remain inaccessible to certain populations.



**FIGURE 2. DETERIORATION OF INTERIOR OF SUPERINTENDENT'S RESIDENCE**

The no-action alternative is required by Council on Environmental Quality regulations and serves as a benchmark for comparing the management direction and environmental consequences of the action alternatives. The no-action alternative does not preclude short-term, minor activities that would be part of routine maintenance for the building.

## **ALTERNATIVE B: PREFERRED ALTERNATIVE**

The preferred alternative presents the National Park Service proposed action and defines the rationale for the action in terms of resource protection and management, visitor and operation use costs, and other applicable factors. The preferred alternative meets the park's planning objectives of preserving historic structures, creating universally accessible facilities, and providing safe and reliable use of existing structures.

The ultimate treatment of the Superintendent's Residence calls for the "adaptive rehabilitation" of this historic structure. The structure was originally designed as a residence, the proposed new function would be considered an adaptive use. To achieve this goal, the

primary treatment category would be rehabilitation. However, overall treatment would also include preservation, stabilization, and restoration, to varying degrees, as appropriate.

## **Improvements**

The rehabilitation of the structure would allow safe use as a science learning and research center and would allow access to the building by all populations. The rehabilitation of the Superintendent's Residence would require a number of stabilization and repair items including:

## ALTERNATIVES

- Driveway – drainage needs to be directed away from the garage; this can be accomplished by sloping the pavement in the other direction, if grade allows. Otherwise, a collection system would be required (figure 3).

- Architectural – as needed, interior and exterior finishes would need to be removed, rehabilitated, or replaced in accordance with the *Secretary of the Interior's Standards for Rehabilitation of Historic Properties* in order to install structural modifications. Some historic treatments and features would be retained; non-historic items would be removed. While the ceilings and walls are open, electrical and mechanical treatments would be installed.

- Interior Architectural Finishes – historic plaster, woodwork, doors and associated hardware, staircase, wood floors, and floor coverings would be retained, where possible, and rehabilitated. All non-historic elements would be removed and replaced, in accordance with the *Secretary of the Interior's Standards for Rehabilitation of Historic Properties*, with materials that match the historic fabric.



**FIGURE 3. GARAGE AND DRIVEWAY OF THE SUPERINTENDENT'S RESIDENCE**

- Interior/Exterior Items – most interior historic light fixtures, historic heating supply registers and return grilles, plumbing fixtures, steel casement windows, and French doors would be rehabilitated. Metal primer and paint would be applied to match historic finish color. Historic furnishings would be retained, cleaned, and rehabilitated. During construction, all historic furnishings would be stored at a suitable facility. After construction is complete, the furnishings would be returned to the Superintendent's Residence since they are an integral part of the structure's historic integrity (figure 4).



**FIGURE 4. FURNISHINGS OF SUPERINTENDENT'S RESIDENCE**

- Exterior Treatments – roof and dormer wood shingles would need to be replaced in-kind; existing non-historic roll-up garage door and single-leaf garage door would be replaced with doors that match the historic configuration using the historic design drawings as a guide; the porch light would be relocated to its historic location; false outlookers (false rafter tails) that have fallen off would be replaced to match the existing configuration of existing outlookers (rafter tails); and a permanent solution for the snow shutters would be designed that is functional and in keeping with the historic character of the structure (figure 5).



**FIGURE 5. ROOF SHINGLES**

- Accessibility For All Populations – modifications for accessibility would include modification of the back porch for universal access; modification of the living room and bathroom on the first floor to create a universally accessible bathroom; and modification to the back door and openings from the laundry to the master bedroom to create accessible routes to all first floor rooms; an exterior ramp to the back door; and accessible path from the parking area to the back door ramp would be (approximately 180 feet).
- Public Access – a short spur trail would be built to connect the Superintendent's Residence with the existing Park Headquarters Historic Walking Tour loop trail in order to enhance access to the building by the general public.
- Structural Work – the roof framing would be

## ALTERNATIVES

strengthened. The undermined footings in the crawl space would be underpinned. The Lateral Force Resisting System (the resistance of the building structure to earthquakes) would be replaced.

- Building Systems – the building envelope, heating and ventilation, plumbing, and fire protection systems would be rehabilitated or replaced. Alternatives to replacement could include new historically compatible storm windows that allow operation of the original steel-sash windows; installation of instantaneous water heater; installation of dry-pipe automatic sprinkler system. A new sewerline will also be installed to service the building.
- Power and Lighting – new wiring would be run in walls and ceilings that are being replaced or repaired for architectural reasons. Lighting would be reused and rehabilitated when possible. Power and receptacles would be brought up to current safety standards.
- Landscaping – using historic photographs and primary drawings, original landscaping would be restored or planted in and around the structure.

Structural treatments would strive to meet the requirements of the following codes and standards: International Building Code 2000; Minimum Design Loads for Buildings and Other Structures American Society of Civil Engineers 7-98; Seismic Evaluation of Existing Buildings, American Society of Civil Engineers 4th Ballot; Building Code Requirements for Structural Concrete; Manual of Steel Construction 9th Edition; and National Design Specification for Wood Construction. Once completed, the building would meet codes and standards necessary for occupation as a residence or office environment.

The rehabilitation alternative is considered beneficial for the preservation and maintenance of the historic fabric and historic characteristics of the structure. Without the rehabilitation alternative, general maintenance is not sufficient to bring the structure to current health and safety standards. All rehabilitation would follow the *Secretary of the Interior's Standards for Rehabilitation of Historic Properties*.

## Sustainability

The National Park Service has adopted the concept of sustainable design as a guiding principle of facility planning and development. The objectives of sustainability are to design National Park Service facilities to:

- minimize adverse effects on natural and cultural values
- reflect their environmental setting
- maintain and encourage biodiversity
- construct and retrofit facilities using energy-efficient materials and building techniques
- operate and maintain facilities to promote their sustainability
- illustrate and promote conservation principles and practices through sustainable design and ecologically sensitive use

Essentially, sustainability is living within the environment with the least impact on the environment. The preferred alternative subscribes to and supports the practice of sustainable planning design to minimize adverse effects on natural and cultural values, to reflect their environmental setting, and to rehabilitate structures/buildings using energy-efficient materials; to operate and maintain facilities to

promote their sustainability; and to illustrate and promote conservation principles and practices through sustainable design and ecologically sensitive use.

## CONSTRUCTION ACTIVITIES

### Mitigation Measures for the Preferred Alternative

All rehabilitation efforts would follow the *Secretary of the Interior's Standards for Rehabilitation of Historic Properties*. All effort would be made to reuse the historic fabric, where not possible, materials that duplicate the historic character would be used.

The Superintendent's Residence is currently closed to the public and would continue to be closed throughout the rehabilitation process.

Construction of the proposed ADA path would impact minimal area and would be incorporated into the historic landscape. Wetlands behind the Superintendent's Residence would be delineated and these wetlands would be avoided. Groupings of trees and shrubs would be avoided. If plant groupings cannot be avoided, shrubs would be transplanted or new groupings of trees would be planted as close to the original location as possible.

Exterior alterations and rehabilitation efforts (including replacement of the existing garage door, replacement of missing mortar in the exterior wall, and possible shutter replacement) would recreate settings and character documented in historic documents and photographs. Original furnishings in the building would be rehabilitated and returned as part of the historic interpretation of the structure.

Rehabilitation activities have the potential to encounter asbestos and lead-containing materials. Prior to initiation of rehabilitation work, an investigation would be conducted for asbestos and lead-containing materials and, if found, these materials would be removed and disposed of in compliance with applicable laws and regulations.

Should unknown archeological resources be uncovered during construction, work would be halted in the discovery area, the site secured, and Crater Lake National Park would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. In compliance with the Native American Graves Protection and Repatriation Act of 1990, the National Park Service would also notify and consult concerned tribal representatives for the proper treatment of human remains, funerary, and sacred objects should these be discovered during the course of the project.

Any construction debris and rubbish would be collected in clearly marked animal-proof trash bins and hauled offsite for disposal.

## ALTERNATIVES

Construction zones would be identified and fenced with construction tape or some similar material prior to any construction activity. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid areas beyond the construction zone.

## GENERAL CONSTRUCTION SCHEDULE AND COSTS

The estimated cost for rehabilitation is \$1,250,000, and the work is expected to take two construction seasons.

## ENVIRONMENTALLY PREFERRED ALTERNATIVE

In accordance with Director's Order – 12, the National Park Service is required to identify the environmentally preferred alternative in all environmental documents, including environmental assessments. The environmentally preferred alternative is determined by applying the criteria suggested in NEPA, which is guided by the Council on Environmental Quality. The Council on Environmental Quality provides direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in section 101 of NEPA, which considers:

1. Fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Assuring for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
3. Attaining the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserving important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
5. Achieving a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. Enhancing the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The environmentally preferred alternative in this environmental assessment is rehabilitation of the Superintendent's Residence, the National Park Service preferred alternative. This alternative was selected as the best value when considering construction costs, life-cycle costs, and other advantages including:

- preventing loss of cultural/historic resources (NEPA Criteria 1 and 4)
- protecting public health, safety, and welfare (NEPA Criteria 2 and 3)
- improving operations efficiency and sustainability (NEPA Criteria 1 and 6)
- protecting employee safety and welfare (NEPA Criteria 3)

In short, this alternative would minimize disturbance to a known historic structure and landmark; limit introduction of new human-made features into the environment; preserve the cultural landscape; provide protection of public and employee health, safety, and welfare; and improve day-to-day operations of the facility.

The no-action alternative would allow the Superintendent's Residence to continue in a state of disrepair and would not preserve this National Historic Landmark. The no-action alternative does not meet the criteria for the environmentally preferred alternative.

## **ALTERNATIVES CONSIDERED BUT DISMISSED FROM DETAILED ANALYSIS**

An alternative was considered that would rehabilitate the Superintendent's Residence as a residential dwelling.

During the period of significance (that is, the date of first occupancy in 1934 until 1942) the Superintendent's Residence served as a single-family dwelling during the summer months. This type of use continued until the fall of 1965, when the only recorded attempt at winter occupancy took place. Subsequently, the structure was used to house seasonal employees until former Superintendent Robert Benton found use of the building as quarters for seasonal employees unacceptable, supposedly causing "too much damage to the fabric itself, as well as the furnishings."

The Superintendent's Residence eventually housed "visiting research scientists" during the summer of 1985, instead of "regular" seasonal housing. This use consisted of quarters for visiting researchers on short-term visits to the park in support of the park's lake monitoring program. The use gradually became more occasional and by 1992, visiting researchers shared the residence with seasonal National Park Service employees. This type of shared occupancy persisted through the summer of 1997.

Restoration of the Superintendent's Residence to serve again as a single family residence or as a multi-occupancy residence would be more in keeping with the historic use of the structure. However, past attempts to use the house as a residence have proven to be impractical or have resulted in unacceptable impacts to historic fabric and furnishings. For these reasons, this alternative was considered but rejected from further analysis.

## COMPARATIVE SUMMARY OF ALTERNATIVES AND EXTENT TO WHICH EACH ALTERNATIVE MEETS THE PROJECT OBJECTIVE

TABLE 1. COMPARATIVE SUMMARY OF ALTERNATIVES

Alternative A: No Action	Alternative B: Preferred Alternative
<p>The park would continue to maintain the Superintendent's Residence in its current condition.</p> <p>The Superintendent's Residence would continue to be uninhabitable due to its condition. No fire suppression and limited theft detection systems would be available to protect the building and its contents from fire and theft. Although intermittent repairs would continue to be made as money is available, the entire building would continue to degrade.</p> <p><u>Meets project objectives?</u></p> <p><b>NO.</b> Continuing the existing conditions does not preserve the historic features of the Superintendent's Residence or preserve the associated cultural landscape; does not provide accessibility to the building for all populations; does not protect visitor health and safety; does not provide for adequate fire and theft protection.</p>	<p>The preferred alternative would allow reuse of the Superintendent's Residence as a science and learning center. The structure would be rehabilitated and restored as offices and research space for researchers. Exterior repairs would include ADA-accessible path, garage door replacement, correction of garage drainage, rehabilitation of exterior and interior architectural features, structural modifications to meet current seismic and structural codes, ADA access to the interior, rehabilitation of existing furnishings, restoration/ rehabilitation of interior features, removal of non-historic features, rehabilitation/replacement of the building envelope, heating and ventilation, plumbing and fire protection systems, replacement of wiring system (where needed). In addition to building repairs, the structure would be made universally accessible and would have some type of fire suppression system, and fire/intrusion detection system. The existing landscaping would be rehabilitated to its original condition (vegetation and plantings). The parking areas and road to the structure would not be affected by the proposed action; however, slope to the garage would be altered.</p> <p><u>Meets project objectives?</u></p> <p><b>YES.</b> Rehabilitation to the Superintendent's Residence would preserve and protect this structure; provide accessibility to the building to all visitors; protect health and safety; provide for adequate fire and theft protection.</p>

## COMPARATIVE SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS

**TABLE 2. COMPARATIVE SUMMARY OF POTENTIAL ENVIRONMENTAL CONSEQUENCES**

<b>Potential Environmental Impacts</b>		
<b>Impact Topic</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Preferred Alternative</b>
Vegetation	No impacts to vegetation	Short-term, minor, adverse impacts to vegetation from construction activities  Long-term, local, negligible, adverse impacts to vegetation from ADA path
Soils	No new impacts to soils	Impacts to soils would be short-term, negligible to minor, adverse and long-term, minor, beneficial
Cultural Landscape	The outside features and landscaping would likely continue to degrade providing long-term, minor impacts to the cultural landscape	The overall impacts to the cultural landscape would be short-term, minor, and adverse and long-term, minor, and beneficial  Section 106 – no adverse effect to historic properties (subject to State Historic Preservation Office concurrence)
Historic Structures	Long-term, moderate, adverse impacts to the NRHP designated landmark	The overall effects to historic structures would be short-term, minor to moderate, adverse impacts and long-term, moderate, beneficial  Section 106 – no adverse effect to historic properties (subject to State Historic Preservation Office concurrence)
Health and Safety	Short- and long-term, negligible to minor, adverse impacts to employee health and safety	The preferred alternative would result in short-term, negligible impacts to construction workers and long-term, minor, beneficial impacts to visitors and employees
Park Operations	No new impacts on park operations	The overall impact on park operations would be short-term, minor, and adverse and long-term, negligible to minor, and adverse
Visitor Use and Experience	Long-term, adverse, negligible impacts to visitor use and experience	The impacts to visitor use and experience would be short term, adverse, and negligible; and long term, beneficial and minor

## AFFECTED ENVIRONMENT

Detailed information on resources of Crater Lake National Park can be found in Crater Lake National Park's *1994 Winter Use Plan*, *Draft Fire Management Plan*, *1999 Visitor Services Plan*, and other management and planning documents. A concise description of the park and of park resources potentially affected by the rehabilitation of the Superintendent's Residence follows.

### LOCATION AND GENERAL DESCRIPTION OF CRATER LAKE NATIONAL PARK

Crater Lake National Park is located in the southern Cascade range, approximately 60 miles northwest of Klamath Falls and 70 miles northeast of Medford, Oregon. Crater Lake National Park is approximately 183,000 acres (286-square miles) encompassing Crater Lake, which is 13,760 acres including Wizard Island. The park was established in 1902 to ensure the preservation of the lake and its natural surroundings. Crater Lake lies inside a caldera, or volcanic basin, created about 7,700 years ago when Mount Mazama collapsed following a major eruption. The lake is 1,943 feet (592 meters) deep at its deepest point—the deepest lake in the United States and the seventh deepest anywhere in the world. Crater Lake is fed almost entirely by snowfall, which makes it one of the clearest lakes in the world.

Crater Lake National Park is surrounded by wilderness and multiple use lands. The park is bounded on the northeast, south, and east by the Winema National Forest; on the north by the Umpqua National Forest; and on the northwest, west, and southwest by the Rogue River National Forest and the Sky Lakes Wilderness Area. In addition, the park adjoins the Sun Pass State Forest and an 80-acre block of private land on the southeast corner.

The park headquarters is located in Munson Valley, one of three prominent glacial valleys on Mount Mazama's south flank. The valley is north-south trending and holds Munson Creek, a spring-fed tributary of Annie Creek that eventually reaches the Klamath Basin, southeast of the park. The park headquarters is located three miles south of Rim Village. Munson Road, connecting Highway 62 and Rim Village, creates the east boundary of the area. The headquarters contains administrative offices for Crater Lake National Park, utility buildings, and employee housing. The property is managed by the National Park Service and is registered as the Munson Valley Historic District.

Crater Lake National Park receives an average of 69 inches (175 cm) of precipitation a year and is known for its long winters and heavy snowfalls. The average seasonal accumulation of snow is 544 inches. The winter of 1932–33 provided 878 inches of snow, the highest recorded total to date. Snow on the ground of 14-foot depth is common by late winter. The greatest recorded snow depth in the park was 252 inches on April 3, 1983. Temperatures from January to March average 19 degrees Fahrenheit (°F) (-7°C) at night and 36°F (2°C) during the day. Temperatures from July to September average 40°F (4°C) at night and 70°F (21°C) during the day.

### Park Visitation

In southern Oregon, the park has historically been the leading visitor draw with an annual visitation of close to 500,000. In fiscal year 2002, total visitation was 455,648. In 1996, park visitation was in excess of 525,000. The park is principally a day-use area with the majority of visitors (75%) present between Memorial Day and Labor Day. Day use accounts for 80% of visitation, with two-thirds of the day users spending less than 2.5 hours in the park ([www.nps.gov/crla](http://www.nps.gov/crla)).

The lake and rim slopes are the primary resources of the park with viewing the lake as the primary activity. During the summer months, the National Park Service offers guided walks, talks, campfire programs, and junior ranger programs. Interpretive boat tours are offered in cooperation with the Crater Lake Lodge Company. A concession company provides lodging, gifts, gas, camping, and food service in the park during the summer. Food service and gifts are available during the winter. Full services are also available in local communities year-round. The primary winter use activity at the park is also passive viewing of the lake. Other activities include cross-country skiing, snowshoeing, and snowmobiling (*Winter Use Plan*). Visitation for the park has remained stable for the past 20 years, ranging from a low of 419,914 visitors to a high of 525,441.

Winter use represents about 25% of total annual visitation. The total number of winter use park visitors increased an average of 3.5% in the early 1990s, and was projected to continue to increase by 1% to 3% through 2005 (*Winter Use Plan*).

## **AFFECTED ENVIRONMENT**

### **Vegetation**

Immediately surrounding the Superintendent's Residence is a created (disturbed) meadow. Surrounding the meadow, vegetation consists of mature forest surrounding the headquarters at Munson Valley. Clearings in the canopy cover mark the administration building and visitor contact center in the eastern portion of the Munson Valley complex, the Superintendent's Residence, and Naturalist's Residence in the northern portion of the property. Dominant species in the surrounding forest include mountain hemlock, white bark pine, Shasta red fir, and noble fir. Wood rush is the dominant understory; willow and subalpine fir are found along the creek and in low wet areas where montane meadow conditions exist (figure 6).

With the exception of minor changes, naturalistic planting designs have provided the foundation for the relatively unchanged appearance of park headquarters. In terms of design and composition, plantings were used to establish vegetation where none existed or in disturbed areas. The placement of trees and shrubs into groups was considered naturalistic and not random.



**FIGURE 6. FOREST AND LANDSCAPE SURROUNDING SUPERINTENDENT'S RESIDENCE**

## **Soils**

The Superintendent's Residence is located in the Munson Valley area of Crater Lake National Park. Munson Valley lies to the south of the caldera near the base of the surrounding slopes at an elevation of 6,475 feet. The soils in this area are predominantly composed of volcanic breccia, remnant glacial material, and ash, largely resulting from activity associated with the Mt. Mazama eruptions. The foundation material is made up of fragmented crystalline and volcanic flow rock, with silty, residual soil resulting from weathering of the rock.

## **Cultural Landscapes**

As described by the National Park Service *Cultural Resource Management Guideline* (Director's Order – 28), a cultural landscape is: "...a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions."

The component landscape of the Superintendent's Residence is significant for its association with early federal administration and development of a national park. As a part of the first master plan for the park, and part of park headquarters, the Superintendent's Residence was an important element in the administrative development of the park. Subsequent landscape analyses expanded the significance of the Munson Valley District as a designed landscape (NPS 1990a).

The natural landform and physiographic features of Munson Valley had a strong influence on the spatial organization and development of the park headquarters site. Munson Creek divides the glaciated valley into three spatial areas that reflects a specific hierarchy of land use: residential, administrative, and maintenance. Although Crater Lake was established in 1902, development of an administrative headquarters did not occur until 1926. Landscape architects, Thomas Vint, Merel Sager, and Francis Lange, were key practitioners of the rustic style and influential in shaping the Munson Valley landscape. Sager and Lange directed general construction and landscape work onsite. The park's "naturalization" program, instituted by Sager, was implemented throughout the park. Lange continued implementation of the program with additional planting and maintenance. By 1941, the Munson Valley area was "home to the most concentrated and coherent expression of Rustic Architecture in the Park" (NPS 1991:27).

The 1926 master plan sited three contiguous complexes within these areas with the administrative complex as the structural and symbolic center. The three areas (residential, administrative, and maintenance) are sited in a generally crescent-shaped arrangement. Forest canopies and meadows separate and distinguish activity areas and created visual buffers between the residential areas at the highest elevations on the north end of the property, and the maintenance area on the south end. As outlined in the master plan, the administrative complex had potential for visitor contact and remains the most prominent and commanding area of the park headquarters complex (Crater Lake NPS 1991).

The Superintendent's Residence and the Naturalist Residence, both display design principles common to the period used in estate planning (residential planning). Both structures are sited at slope apex, with the goal to suggest openness and freedom. Although there have been several physical changes (roads widened and visitor and administration services expanded), the primary historic land-use patterns remain intact.

Landscape efforts for the park were undertaken during the 1933–1934 construction season. The landscape treatments were a critical component of the park and were designed to integrate human-made structures and circulation systems into the natural surroundings using weathered boulders, masonry, and rustic wood signs to accentuate design elements and evoke a rustic appearance (Crater Lake National Park Cultural Landscape Inventory 2000). Over a thousand trees and several thousand shrubs were transplanted to the area as part of the site's "naturalization" program initiated by Sager. The buildings were designed to harmonize with and to be subordinate to their surroundings. "Native plants were used because they were most suited to survive, not because they necessarily imitated the surrounding forest" (Notes from an Oral History with Francis Lange, February 1, 1991). Transplants were used to establish vegetation where none existed, in disturbed areas, and to fill out planting beds for design or functional purposes. The placement of trees and shrubs into groups was considered "naturalistic" rather than random. Landscaping for the Superintendent's Residence was completed in 1933, under Sager's direction. The site was completely landscaped, including the rear of the building and extended on either side of the drive down to the turn-around parking area. The pad was graded during construction, creating a level area that formed the "yard," with hand grading conducted to the north and east of the structure. Boulders were placed, or left in place as landscape features, to blend the "yard" area with the surrounding landscape (Crater Lake National Park Cultural Landscape Inventory 2000).

Circulation is a landscape characteristic of the Superintendent's Residence and retains integrity. Circulation elements are primarily pedestrian and consist of two flagstone walkways that provide formal access and guide foot traffic from the parking area to the front and back entrances. A paved driveway provides access to the subgrade garage that is integral to the residence.

## **Historic Structures**

A National Historic Landmark is a “district, site, building, structure, or object of national historical significance designated by the Secretary of the Interior under the authority of the Historic Sites Act of 1935 and entered in the National Register of Historic Places” (Director’s Order – 28). This is a designation implying that the district, site, building, structure, or object is of paramount importance.

Most districts, sites, buildings, structures, or objects listed on the NRHP are significant on the local or state level. A property can be recommended as nationally significant when nominated to the NRHP, but before it can be designated a National Historic Landmark, it must be evaluated by the National Park Service’s National Historic Landmark Survey, reviewed by the National Park System Advisory Board, and recommended to the Secretary of the Interior. Resources that qualify as National Historic Landmarks are granted the highest level of protection by the National Park Service (followed by structures that are not nationally significant individually, but contribute to the national significance of a park or district, structures that individually or collectively qualify for the NRHP and possess significance on the state level, and structures that individually or collectively qualify for the NRHP and possess significance on the state level) (Director’s Order – 28).

The Superintendent’s Residence was built in 1932, and designated as a National Historic Landmark in 1987 because it is an outstanding example of rustic architectural design. In 1988, the Munson Valley Historic District, which contains the park headquarters area, was listed on the NRHP. This nomination designated 18 buildings constructed between 1926 and 1941, in the rustic style, that contribute to the significance of the district. As a district, these buildings are representative of rustic architecture built in the National Parks during the New Deal programs of the post-Depression era. The structure, and its contents, represents a high degree of historical integrity, having been modified little since completion of construction in 1933.

During the period of significance (1934–1942), the residence served as a single-family dwelling during the summer months. This type of use continued until the fall of 1965, when the only recorded attempt at winter occupancy took place (NPS 2003). The Superintendent’s Residence supported park research during the summer of 1985, and consisted of quarters for researchers on short-term visits to the park (most affiliated with Oregon State University on contracted limnological studies). Use of the building for that purpose became more occasional by 1992, with researchers sharing the residence with seasonal National Park Service employees. The building was closed in 1997 due to fears of health problems associated with rodent infestations. Discussion of possible conversion to a research facility containing offices began as an idea in the Draft Visitor Services Plan in 1997, but was felt to be beyond the scope of the plan and was not included in further discussions. Renewed interest began in 1999, when the possibility of securing funds for a “Science and Learning Center housed at the Park Headquarters” was investigated.

The Crater Lake Superintendent’s Residence is a three-level, rustic style residence with steep intersecting gable roofs, heavy exterior stone masonry shear walls, and a wood-framed roof and floors. The structure was built in 1932 and completed in 1933. The structure has a total floor area of 2,544-square feet. The second floor of the structure is enclosed within the roof framing, with interior walls spanning between rafters and the second-floor diaphragm. The roof, made of wooden shake shingles, is steeply pitched, with gable ends at four locations and overhanging eaves around the entire perimeter of the building. The exterior stone walls consist of heavy untrimmed stones with oversized boulders at on the bottom. These walls are approximately 12-inches thick at the top and as much as 16-inches thick at grade. All stones used appear to be natural, with mortar used to fill in the voids. The building’s interior was finished with woodwork detailing, Mission-style furniture, and wrought-iron fixtures.

The structure required a compact floor plan and minimum building envelope because of the unique construction method used to construct the Munson Valley administration buildings. This method,

developed by Sager, made use of the interior framework to support second-floor construction, while masonry work proceeded on the first floor. The building method lengthened the construction period, which was essential considering the area's short period of snow-free conditions.

Character defining features include:

- Exterior walls – rounded native stones or boulders with irregular coursing (maximum size of 5-feet in diameter; average stone size of 2- to 3-feet in diameter). Mortar joints are large, ranging from as much as 4 inches to as little as an inch.
- Roof – green stained roof singles consisting of various cut widths with alternately staggered butts. False heavy-timber assemblies support the eaves.
- Chimney – large stone construction similar to the exterior walls.
- Windows – multi-light, painted white, operable steel casement, set into weak frames with both masonry and wood sills.
- Doors – rugged front door and French doors leading to the living room.
- Terrace – a short, thick stone wall surrounding a concrete poured slab.
- Lighting – historic front porch light.
- Interior walls and ceilings – plaster and lathe. Plaster texture varies depending on location.
- Massive stone fireplace.
- Finish floors.
- Interior stairs.
- Casework: kitchen cabinets and cupboards.
- Interior lighting – all black metal ceiling fixtures, white glass globe lights in bathrooms and kitchen, second floor bathroom sconce lights.
- Mechanical – all metal supply registers.
- Plumbing fixtures – all existing white ceramic tank toilets, bathtubs, lavatories, and ceramic control knobs in second-floor bathroom.
- Historic furnishings – all furnishings with dark stain and black iron accents.
- Garage – placement at grade beneath the master bedroom necessitating the placement of the concrete beam on the building's exterior.

## **Health and Safety**

The Superintendent's Residence was originally constructed in 1933. Minor repair work was done in the 1950s, and additional work was done in the late 1960s to prepare the structure for year-round habitation. With the exception of the first winter following these improvements, the building has been used only in the summer months by seasonal employees and visiting researchers. As a result of this seasonal occupancy, the condition of the building is rapidly deteriorating and significant maintenance is now required. Rodents and other wildlife have begun occupying interior spaces during the winter months, presenting additional dangers to human health. The building is currently uninhabitable and does not meet safety standards for electrical, mechanical, seismic, ADA, and fire protection. In addition, the insulation of existing electrical wiring has deteriorated to the point of being unsafe.

The Superintendent's Residence is located in an area of potential high seismicity, as well as experiencing heavy snow loads in the winter months. Both the potential for seismic events and the winter snow load create the possibility for structural problems if the building's structural support system is not properly designed. Currently, the structural support comes primarily from non-ductile materials (non-flexible) in the stone masonry walls. In the event of seismic activity, the building would likely suffer severe damage or collapse.

The Superintendent's Residence also utilizes an oil-fired furnace that was installed in 1964, and is at the end of its service life. Due to a leaking flue, this furnace currently presents a threat to the health of occupants, as well as being potentially damaging to the building interior and furnishings. The existing heat ducts have evidence of wildlife infestation, and asbestos may be present in the existing insulation wrapping. The fuel supply to the furnace is from a 1,000-gallon fuel oil tank buried under the existing driveway. Because of its age, this tank has leak potential with a corresponding threat of soil and water contamination.

### **Park Operations**

The park maintenance staff is responsible for the operation and maintenance of all park facilities and equipment, including utilities, structures and grounds, visitor use areas, trail systems, picnic areas, roads, park signs, vehicles, and custodial services. The park operations budget (including salaries and wages) was \$4,024,000 for fiscal year 2003 ([www.nps.gov/crla](http://www.nps.gov/crla)).

Due to the relatively sporadic and short-term use patterns of the Superintendent's Residence for the past several years, many deferred maintenance items are now becoming necessary.

### **Visitor Use and Experience**

The Park Headquarters Historic Walking Tour is available to visitors interested in the many examples of rustic architecture found in this area of the park (figure 7). The exterior of the Superintendent's Residence is a point of interest along this walking tour; however, access to the interior of this structure is not provided to the general public.

The building is currently not accessible by all populations. Entrances to the building require ascending stairs and interior door and hallways are narrow with tight turns.

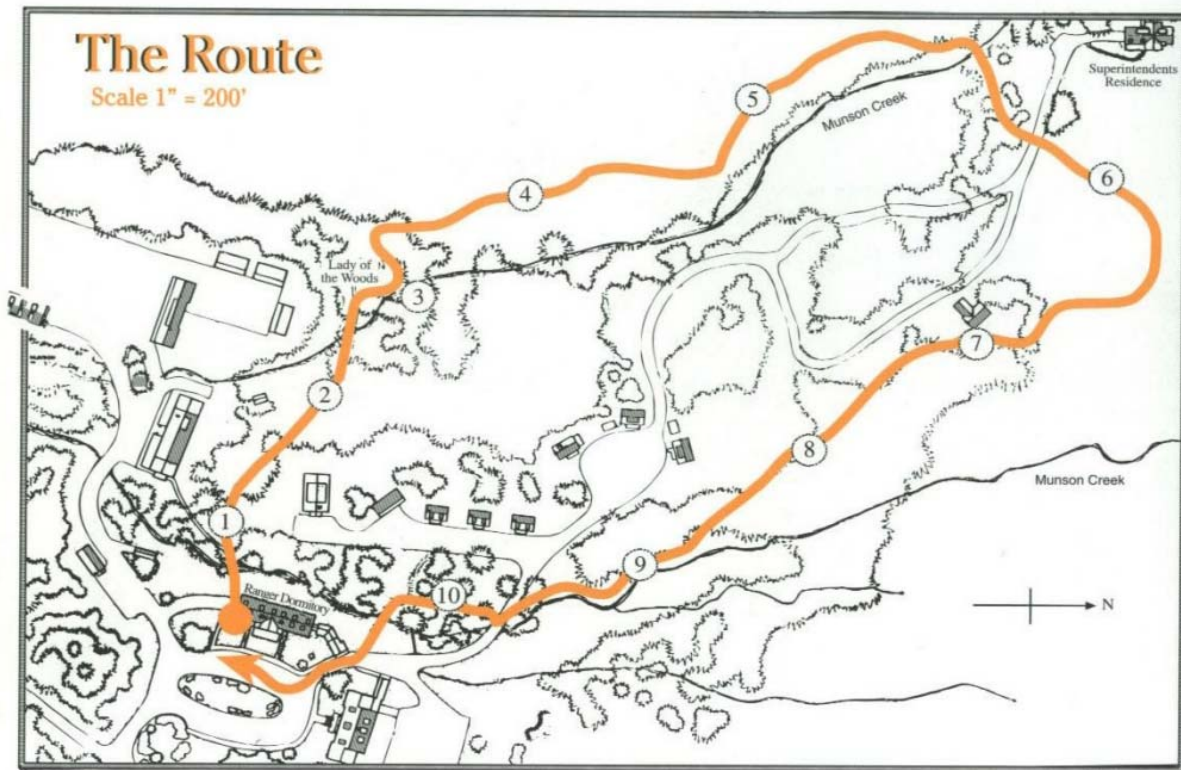


FIGURE 7. PARK HEADQUARTERS HISTORIC WALKING TOUR ROUTE

## ENVIRONMENTAL CONSEQUENCES

### INTRODUCTION

This section describes the environmental consequences of the no-action alternative and the National Park Service preferred rehabilitation of the Superintendent's Residence. In accordance with NEPA, the methods for assessing the environmental consequences are discussed. NEPA requires the consideration of the context, intensity, and duration of the proposed project impacts, an assessment of potential cumulative impacts, and the presentation of measures designed to mitigate identified impacts for each of the proposed project alternatives. An explanation of resource "impairment," which must also be assessed for the alternatives, is also provided according to National Park Service policy.

### METHODS FOR ASSESSING IMPACTS

Impact analyses and resultant conclusions are based on a review of existing literature and park studies, information provided by park staff, professional judgments and insights of other agencies and officials, and input from interested local American Indian tribes and the general public. The definitions used to evaluate the context, intensity, duration, and cumulative nature of impacts associated with the proposed project alternatives are discussed below. Environmental consequences are evaluated based on the adoption of the mitigation measures outlined in the "Alternatives" section of this document.

*Context* is the setting within which impacts are analyzed such as the affected region, society as a whole, the affected interests, and/or a locality. In this environmental assessment, the intensity of impacts are evaluated within a local (i.e., project area) context, while the intensity of the contribution of effects to cumulative impacts are evaluated in a regional context.

*Duration* is the time period for which the impacts are evident. Short-term impacts are those that are noticeable during the project and six months thereafter. Long-term impacts are those that are evident for periods longer than six months after the project.

The *duration* of the impacts in this analysis is defined as follows:

- *Short term* – impacts occur only during construction or last less than two years
- *Long term* – impacts last longer than the period of construction or longer than two years

Whether an impact is direct or indirect is considered as follows:

- *direct* – an effect that is caused by an action and occurs at the same time and place
- *indirect* – an effect that is caused by an action, but is later in time or farther removed in distance, but still reasonably foreseeable

### Impacts to Cultural Resources and Section 106 of the National Historic Preservation Act

In this environmental assessment, impacts to cultural resources are described in terms of type, context, duration, and intensity, which is consistent with the regulations of the Council on Environmental

Quality that implement NEPA. These impact analyses are intended, however, to comply with the requirements of both NEPA and section 106 of the National Historic Preservation Act. In accordance with the Advisory Council on Historic Preservation regulations implementing section 106 of the National Historic Preservation Act (36 CFR Part 800, *Protection of Historic Properties*), impacts to cultural resources were also identified and evaluated by:

- determining the area of potential effects
- identifying cultural resources present in the area of potential effects that are either listed in or eligible to be listed in the NRHP
- applying the criteria of adverse effect to affected NRHP-eligible or listed cultural resources
- considering ways to avoid, minimize, or mitigate adverse effects

Under the Advisory Council's regulations, a determination of either *adverse effect* or *no adverse effect* must also be made for affected NRHP-listed or eligible cultural resources. An adverse effect occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion in the NRHP, e.g., diminishing the integrity (or the extent to which a resource retains its historic appearance) of its location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by the alternatives that would occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5, Assessment of Adverse Effects). A determination of *no adverse effect* means that there is an effect, but the effect would not diminish the characteristics of the cultural resource that qualify it for inclusion in the NRHP.

Council on Environmental Quality regulations and the National Park Service *Conservation Planning, Environmental Impact Analysis and Decision-making* (Director's Order – 12) also call for a discussion of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of an impact from major to moderate or minor. Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect as defined by section 106, is similarly reduced. Cultural resources are non-renewable resources and adverse effects generally consume, diminish, or destroy the original historic materials or form, resulting in the loss in the integrity of the resource that can never be recovered. Therefore, although actions determined to have an adverse effect under section 106 may be mitigated, the effect remains adverse.

A section 106 summary is included in the impact analysis sections. The summary is an assessment of the effect of the undertaking (implementation of the alternative) on NRHP-eligible or listed cultural resources only, based upon the criterion of effect and criteria of adverse effect found in the Advisory Council's regulations.

## Vegetation

- Negligible – an action that could affect vegetation, but the change would be so small that it would not be of any measurable or perceptible consequence.
- Minor – an action that could affect vegetation, but the change would be slight and localized with few measurable consequences.
- Moderate – an action that would result in readily apparent changes to affect vegetation with measurable consequences.
- Major – a severely adverse effect to vegetation would result.

## Soils

- Negligible – an action that could affect soils or geology, but the change would be so small that it would not be of any measurable or perceptible consequence.
- Minor – an action that could affect soils or geology, but the change would be slight and localized with few measurable consequences.
- Moderate – an action that would result in readily apparent changes to affect soils or geology with measurable consequences.
- Major – a severely adverse effect to soils or geology would result.

## Cultural Landscape

- Negligible – impact(s) is at the lowest levels of detection with neither adverse nor beneficial consequences. The determination of effect of section 106 would be *no adverse effect*.
- Minor (adverse impact) – alteration of a pattern(s) or feature(s) of the landscape would not diminish the overall integrity of the landscape. The determination of effect for section 106 would be *no adverse effect*.
- Minor (beneficial impact) – preservation of landscape patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Cultural Landscapes*. The determination of effect for section 106 would be no adverse impact.
- Moderate (adverse impact) – alteration of a pattern(s) or feature(s) of the landscape would diminish the overall integrity of the landscape. The determination of effect for section 106 would be *adverse effect*. A memorandum of agreement is executed among the National Park Service and applicable state or tribal historic preservation office and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). Measures identified in the memorandum of agreement to minimize or mitigate adverse impacts reduce the intensity of impact under NEPA from major to minor.
- Moderate (beneficial impact) – rehabilitation of a landscape or its patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. The determination of effect for section 106 would be *no adverse effect*.
- Major (adverse impact) – alterations of a pattern(s) or feature(s) of the landscape would diminish the overall integrity of the landscape. The determination of effect of section 106

would be adverse effect. Measures to minimize or mitigate adverse impacts cannot be agreed upon and the National Park Service and applicable state or tribal historic preservation office and/or Advisory Council are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b).

- Major (beneficial impact) – restoration of a landscape or its patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. The determination of effect for section 106 would be *no adverse effect*.

## Historic Structures

In order for a structure or building to be listed in the NRHP, it must meet one or more of the following criteria of significance: (1) associated with events that have made a significant contribution to the broad patterns of our history; (2) associated with the lives of persons significant in our past; (3) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; (4) have yielded, or may be likely to yield, information important in prehistory or history. In addition, the structure or building must possess integrity of location, design, setting, materials, workmanship, feeling, and association (*National Register Bulletin, How to Apply the National Register Criteria for Evaluation*). For purposes of analyzing potential impacts to historic structures/buildings, the thresholds of change for the intensity of an impact are defined as follows:

- Negligible – impact(s) is at the lowest levels of detection—barely perceptible and not measurable. For purposes of section 106, the determination of effect would be *no adverse effect*.
- Minor (adverse impact) – impact would not affect the character defining features of a NRHP eligible or listed structure or building. For purposes of section 106, the determination of effect would be *no adverse effect*.
- Minor (beneficial impact) – stabilization/preservation of character defining features in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. For purposes of section 106, the determination of effect would be *no adverse effect*.
- Moderate (adverse impact) – impact would alter a character defining feature(s) of the structure or building, but would not diminish the integrity of the resource to the extent that its NRHP eligibility is jeopardized. For purposes of section 106, the determination of effect would be *no adverse effect*.
- Moderate (beneficial impact) – rehabilitation of a structure or building in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. For purposes of section 106, the determination of effect would be *no adverse effect*.
- Major (adverse impact) – impact would alter a character defining feature(s) of the structure or building, diminishing the integrity of the resource to the extent that it is no longer eligible to

be listed in the NRHP. For purposes of section 106, the determination of effect would be *adverse effect*.

- Major (beneficial impact) – restoration of a structure or building in accordance with the Secretary of the Interior’s *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. For purposes of section 106, the determination of effect would be *no adverse effect*.

## Health and Safety

- Negligible – an action that could affect health and safety issues, but the change would be so small that it would not be of any measurable or perceptible consequence.
- Minor – an action that could affect health and safety issues, but the change would be slight and localized with few measurable consequences.
- Moderate – an action that would result in readily apparent changes to affect health and safety issues with measurable consequences.
- Major – a severely adverse effect to health and safety issues would result.

## Park Operations

- Negligible – an action that could affect park operations, but the change would be so small that it would not be of any measurable or perceptible consequence.
- Minor – an action that could affect park operations, but the change would be slight and localized with few measurable consequences.
- Moderate – an action that would result in readily apparent changes to affect park operations with measurable consequences.
- Major – a severely adverse effect to park operations would result.

## Visitor Use and Experience

- Negligible – an action that could affect visitor use and experience, but the change would be so small that it would not be of any measurable or perceptible consequence.
- Minor – an action that could affect visitor use and experience, but the change would be slight and localized with few measurable consequences.
- Moderate – an action that would result in readily apparent changes to affect visitor use and experience with measurable consequences.
- Major – a severely adverse effect to visitor use and experience would result.

## CUMULATIVE IMPACTS

The Council on Environmental Quality regulations, which implement NEPA, require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts are considered for both the no-action and preferred alternatives.

Cumulative impacts were determined by combining the impacts of the preferred alternative (rehabilitation of the Superintendent's Residence) with other past, present, or reasonably foreseeable future actions. It was, therefore, necessary to identify past, ongoing, or reasonably foreseeable future actions in the area of the park.

There were no past projects identified during scoping that would contribute to cumulative impacts. Present and future actions that may have potential to cumulatively impact resources include:

- rehabilitation of the Naturalist's Residence (building 20)
- restoration of the historic district landscaping
- rehabilitation of the warehouse
- rehabilitation of the hospital
- reconstruction of the Rim parking lot
- rehabilitation of the Rim cafeteria
- waterline replacement from Munson Springs to Garfield
- lagoon project at Munson Valley

## **IMPAIRMENT OF PARK RESOURCES AND VALUES**

In addition to determining the environmental consequences of the proposed action and alternatives, the *2001 NPS Management Policies* (NPS 2001A) and Director's Order – 12 require analysis of potential effects to determine if actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must seek ways to avoid, or minimize to the greatest degree practicable, adversely impacting park resources and values. Congress has given National Park Service managers discretion, however, to allow impacts to

## ENVIRONMENTAL CONSEQUENCES

park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values.

The prohibited impairment is an impact that would, in the professional judgment of the responsible National Park Service manager, harm the integrity of park resources or values, including opportunities that would otherwise be present for the enjoyment of those resources or values. An impact would be more likely to constitute an impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is as follows:

- necessary to fulfill specific park purposes identified in the establishing legislation or proclamation of the park
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park
- identified as a goal in the park's *General Management Plan* or other relevant National Park Service planning documents

A determination on impairment is made in the "Conclusion" section of most impact topics of this document. Impairment statements are not required for health and safety, visitor experience, concession operations, or park operations topics.

## ENVIRONMENTAL CONSEQUENCES — ALTERNATIVE A: NO ACTION

This section evaluates the potential impacts of the no-action alternative.

### Vegetation

Under the no-action alternative, no exterior actions are proposed, therefore, there would be no change to vegetation from the no-action alternative.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects with this proposed project include the rehabilitation of the Naturalist's Residence, hospital, and warehouse; reconstruction of the Rim parking lot and rehabilitation of the Rim cafeteria; restoration of historic landscaping; waterline replacement from Munson Springs to Garfield; and the lagoon project at Munson Valley. Because there would be no change to vegetation from the no-action alternative, this alternative would not contribute to cumulative impacts.

**Conclusion.** There would be no impacts to vegetation from the no-action alternative. The no-action alternative would not contribute to cumulative impacts.

Because there would be no major adverse impacts to a resource or value whose conservation is necessary to fulfill specific purposes identified in the park's establishing legislation; key to the natural or cultural integrity of the park; or identified as a goal in the park's *General Management Plan* or other relevant National Park Service planning documents, there would be no impairment of park resources or values.

### Soils

Under the no-action alternative, no exterior actions are proposed; therefore, there would be no impact to soils from the no-action alternative.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects with this proposed project include the rehabilitation of the Naturalist's Residence, hospital, and warehouse; restoration of historic landscaping; reconstruction of the Rim parking lot and rehabilitation of the Rim cafeteria; waterline replacement from Munson Springs to Garfield; and the lagoon project at Munson Valley. The no-action alternative would contribute to cumulative impacts to soils from past, present, and reasonably foreseeable future activities.

**Conclusion.** There would be no impacts to soils from the no-action alternative. The no-action alternative would not contribute to cumulative impacts.

Because there would be no major adverse impacts to a resource or value whose conservation is necessary to fulfill specific purposes identified in the park's establishing legislation; key to the natural or cultural integrity of the park; or identified as a goal in the park's *General Management Plan* or other relevant National Park Service planning documents, there would be no impairment of park resources or values.

## Cultural Landscape

Under the no-action alternative, all the cultural landscape resources would continue to be managed as they are currently. Under the no-action alternative, no major exterior actions would occur. Repairs would continue to be made, as necessary, to ensure that the Superintendent's Residence remains structurally sound; however, overall renovations would not occur. The outside features and landscaping would likely continue to degrade providing long-term, minor impacts to the cultural landscape.

**Cumulative Impacts.** A variety of past, present, and reasonably foreseeable actions have affected and would continue to affect cultural landscapes in the park, including reconstruction of the Rim parking lot; rehabilitation of the Rim cafeteria; restoration of historic landscaping; and the rehabilitation of the Naturalist's Residence, warehouse, and hospital. These projects would provide long-term, moderate, cumulative, beneficial impacts to the cultural landscape; however, there would be short-term, minor, adverse impacts from construction activities. The no-action alternative would contribute long-term, minor, adverse impacts to cumulative effects to cultural landscapes. These minor adverse impacts would not be enough to offset the moderate beneficial impacts from the other cumulative projects and the overall cumulative impacts would continue to be short term, minor, adverse and long-term, moderate, and beneficial.

**Conclusion.** There would be long-term, minor, adverse impacts to the cultural landscape from the no-action alternative. The no-action alternative would contribute long-term, minor, adverse impacts to cumulative effects to cultural landscapes. These long-term, minor, adverse impacts would not be enough to offset the long-term, moderate, beneficial impacts from the other cumulative projects and the overall cumulative impacts would continue to be short-term, minor, and adverse and long-term, moderate, and beneficial.

Because there would be no major adverse impacts to a resource or value whose conservation is necessary to fulfill specific purposes identified in the park's establishing legislation; key to the natural or cultural integrity of the park; or identified as a goal in the park's *General Management Plan* or other relevant National Park Service planning documents, there would be no impairment of park resources or values.

## Historic Structures

Under the no-action alternative, general deterioration of the Superintendent's Residence would continue. Limited maintenance and repairs would be performed, but overall the building would continue in a state of disrepair. The Superintendent's Residence designation as a National Historic Landmark and a contributing element to the NRHP makes this structure an important element to both the cultural landscape and the historic context of the district.

The issue of the driveway slope toward the garage allowing water to drain into the structure would continue to cause maintenance problems. Interior finishes would continue to flex and crack from snow loading. Character defining features of the historic structure would continue to deteriorate.

However, due to the historic nature of the building, there would be enough maintenance performed to allow the building to continue to remain standing and to at least address any major issues that would threaten the integrity or weather-tight nature of the structure .

Although the no-action alternative represents no change to current conditions, the current conditions would continue to worsen resulting in a moderate, long-term, adverse impact to the NRHP-designated Superintendent's Residence and the historic district.

**Cumulative Impacts.** A variety of past, present, and reasonably foreseeable actions have affected and would continue to affect historic properties in the park, including reconstruction of the Rim parking lot; rehabilitation of the Rim cafeteria; and the rehabilitation of the Naturalist's Residence, warehouse, and hospital. Overall, cumulative impacts of the restoration and rehabilitation projects would be short term, minor, adverse during construction and long term, moderate, and beneficial. The no-action alternative would contribute a long-term, moderate, adverse impact to cumulative effects to historic properties. However, this long-term, moderate adverse impact would not be enough to offset the overall moderate beneficial impacts from other restoration and rehabilitation projects and the overall cumulative impacts would be short term, minor, adverse and long term, minor to moderate, and beneficial.

**Conclusion.** The no-action alternative would result in a long-term, minor to moderate, adverse impact to the NRHP-designated Superintendent's Residence. The no-action alternative would contribute a long-term, minor to moderate, adverse impact to cumulative effects to historic properties. However, this long-term, minor to moderate impact would not be enough to offset the overall moderate beneficial impacts from other restoration and rehabilitation projects and the overall cumulative impacts would be short term, minor, adverse and long term, minor to moderate, and beneficial.

Because there would be no major adverse impacts to a resource or value whose conservation is necessary to fulfill specific purposes identified in the park's establishing legislation, key to the natural or cultural integrity of the park, or identified as a goal in the park's *General Management Plan* or other relevant National Park Service planning documents, there would be no impairment of park resources or values.

## Health and Safety

Under the no-action alternative, the Superintendent's Residence would remain vacant and uninhabitable and would not meet safety standards for electrical, mechanical, seismic, ADA, and fire

protection. Rodent and wildlife infestation would continue unabated and the general condition of this historic structure would continue to deteriorate from lack of use and minimal ongoing maintenance. Since the building would remain uninhabitable, only park maintenance staff would be exposed to health and safety risks, resulting in a negligible to minor, short- and long-term, adverse impact.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects with this proposed project include: the waterline replacement from Munson Springs to Garfield, the reconstruction of the Rim parking lot, and the lagoon project at Munson Valley. These construction projects would represent a potential short-term, negligible, adverse impact to the health and safety of construction workers and a long-term, negligible to minor, beneficial impact to visitor and employee health and safety. The no-action alternative would contribute short- and long-term, negligible to minor, adverse impacts to the cumulative projects and the overall cumulative projects would result in short-term, negligible to minor, adverse, cumulative impacts and long-term, negligible, beneficial impacts to health and safety.

**Conclusion.** The no-action alternative would result in negligible to minor, short- and long-term, adverse impacts to health and safety. The no-action alternative would contribute short- and long-term, negligible to minor, adverse impacts to the cumulative projects and the overall cumulative projects would result in short-term, negligible to minor, adverse, cumulative impacts and long-term, negligible, beneficial impacts to health and safety.

## **Park Operations**

Under the no-action alternative the Superintendent's Residence would remain vacant. Rehabilitation needed for the overall restoration, preservation, and stabilization of the historic structure would not occur, and maintenance activities associated with the residence would not change. The structure is not currently being used and the continued non-use of the building would have no new impact on ongoing park operations. Staffing levels, park expenses, and other park operational items would remain unchanged as a result of the no-action alternative. Therefore, there would be no new impacts to park operations related to the no-action alternative.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects to park operations include the rehabilitation of the Naturalist's Residence, warehouse, and hospital; reconstruction of the Rim parking lot and rehabilitation of the Rim cafeteria; waterline replacement from Munson Springs to Garfield; and the lagoon project at Munson Valley. The no-action alternative would not contribute to cumulative impacts to park operations.

**Conclusion.** There would be no new impacts on park operations from continued non-use of the building and ongoing maintenance of the building. The no-action alternative would not contribute to cumulative impacts to park operations.

## **Visitor Use and Experience**

While access to the interior of the Superintendent's Residence is not provided to the general public, it remains as one of the finest examples of rustic architecture in the country. Because of its historic and architectural significance, the building is a point of interest along the Park Headquarters Historic Walking Tour. Under the no-action alternative, the Superintendent's Residence would remain vacant and uninhabitable and would not meet safety standards for electrical, mechanical, seismic, ADA, and fire protection. Further deterioration of both the interior and exterior of the structure due to weather,

age, and wildlife infestation would be expected to continue and worsen over time resulting in adverse, long-term, negligible impacts to visitor use and experience.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects with this proposed project include rehabilitation of the Naturalist's Residence, warehouse, and hospital; reconstruction of the Rim parking lot and rehabilitation of the Rim cafeteria; and Park Headquarters Historic Walking Tour. The cumulative projects would provide a long-term, minor to moderate, beneficial impact to visitor use and experience although there would be short-term, negligible, adverse impacts from the construction activities. The no-action alternative would contribute negligible, adverse impacts to the cumulative impacts and the overall cumulative projects would have short-term, negligible, adverse and long-term, minor to moderate, beneficial impacts to visitor use and experience.

**Conclusion.** The no-action alternative would allow for the continued deterioration of a historically and architecturally significant park structure. The impacts on visitor use and experience and cumulatively as a result of the no-action alternative would be adverse, long term, and negligible. The no-action alternative would contribute negligible, adverse impacts to the cumulative impacts and the overall cumulative projects would have short-term, negligible, adverse impacts and long-term, minor to moderate beneficial impacts to visitor use and experience.

## ENVIRONMENTAL CONSEQUENCES—ALTERNATIVE B: REHABILITATION OF THE SUPERINTENDENT'S RESIDENCE

### Vegetation

The preferred alternative would include the construction of a new ADA path from the parking area to the back door and placement of a new sewerline servicing the building. The path would need to be a minimum of 3-feet wide and 180-feet in length for a total of 540-square feet or 60-square yards. The exact location of the sewerline would be determined prior to construction. The sewerline disturbances would be restored upon completion of construction; however, the ADA path would become a permanent feature. Groupings of trees would be avoided, groupings of shrubs would be avoided or transplanted nearby. Removal of the oil tank in the driveway and the recontouring of the driveway would be in previously disturbed and currently paved areas. The historic landscaping for the Superintendent's Residence would be rehabilitated around the building resulting in short-term, negligible, adverse impacts and long-term, minor, beneficial impacts. The proposed construction activities would result in short-term, local, minor, adverse impacts to vegetation. The permanent loss of vegetation for the ADA path would result in long-term, negligible, adverse impacts to vegetation.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects to vegetation include the rehabilitation of the Naturalist's Residence, hospital, and warehouse; restoration of historic landscaping; reconstruction of the Rim parking lot and rehabilitation of the Rim cafeteria; waterline replacement from Munson Springs to Garfield; and the lagoon project at Munson Valley. The overall impact to vegetation from the cumulative projects would be short term, minor, and adverse and long term, minor, and beneficial. The preferred alternative would contribute minor, short-term, adverse impacts and negligible, long-term, adverse impacts to vegetation. The overall impacts to vegetation from the cumulative projects, including the preferred alternative, would be short term, minor, and adverse, and long term, minor, and beneficial.

**Conclusion.** The proposed construction activities would result in short-term, local, minor, adverse impacts to vegetation. The permanent loss of vegetation for the ADA path would result in long-term, negligible, adverse impacts to vegetation. The overall impacts to vegetation from the cumulative projects, including the preferred alternative, would be short term, minor, and adverse and long term, minor, and beneficial.

Because there would be no major adverse impacts to a resource or value whose conservation is necessary to fulfill specific purposes identified in the park's establishing legislation, key to the natural or cultural integrity of the park, or identified as a goal in the park's *General Management Plan* or other relevant National Park Service planning documents, there would be no impairment of park resources or values.

## Soils

Soil disturbance associated with the proposed action alternative in areas not previously disturbed or not disturbed in many decades would include the construction of an accessible ramp linking the parking area with the rear entrance to the structure. This construction would primarily consist of the addition of compacted fill material on top of existing soils in order to accommodate the elevation change from the parking area to the back porch, while maintaining a maximum 5% grade.

Approximately, 540-square feet or 60-square yards of soil would be disturbed. This disturbance would be permanent as an asphalt path would be placed over the soils. Additional disturbance of soils would result from placement of a new sewerline to service the building and restoration of the historic landscaping surrounding the building. Both the sewerline placement and the landscape restoration would be short-term soil disturbances that would be reclaimed in the long term. The disturbances to soils would result in a short-term, negligible to minor, adverse impact and long-term, negligible, beneficial impacts to soils.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects with this proposed project include the rehabilitation of the Naturalist's Residence, hospital, and warehouse; restoration of historic landscaping; reconstruction of the Rim parking lot and rehabilitation of the Rim cafeteria; waterline replacement from Munson Springs to Garfield; and the lagoon project at Munson Valley. These cumulative projects would result in short-term, negligible to minor, adverse impacts and long-term, minor, beneficial impacts. The cumulative impacts to soils from past, present, and reasonably foreseeable future projects, in combination with the preferred alternative, would result in short-term, negligible to minor, adverse impacts and long-term, minor, beneficial impacts.

**Conclusion.** The disturbances to soils would result in a short-term, negligible to minor, adverse impacts and long-term, negligible, beneficial impacts to soils. The cumulative impacts to soils from past, present, and reasonably foreseeable future projects, in combination with the preferred alternative would result in short-term, negligible to minor adverse impacts and long-term, minor, beneficial impacts.

## Cultural Landscape

Under the preferred alternative, an ADA-accessible path from the parking area to the back door would be constructed. An accessible entrance in the front door would be difficult due to the number of steps. Ramping length required would result in an intrusion on the historic landscape. The entrance to the back door has only two and one-half steps. The area near the back entrance has level ground and several large native trees. The construction of a trail is recommended to meet the grade of the existing back porch. To accommodate the elevation change from the driveway to the back porch, the connecting trail would need to be a minimum of 180-feet in length to achieve a maximum grade of 5%. In addition, level rest areas would be needed. The trail could meander behind the house through the trees to create an unobtrusive element to the landscape. Minimum width should be 36 inches. The surface would be asphalt. Minor grading would be required along the edges. The accessible trail should intersect the driveway relatively near the existing stone walk to maintain the historic nature of the existing cultural landscape. Groupings of trees would be avoided, groupings of shrubs would be avoided or transplanted nearby. The construction of the ADA-accessible path would result in long-term, negligible, adverse impacts to the cultural landscape.

The historic landscape would be rehabilitated around the Superintendent's Residence as part of the preferred alternative. Rehabilitation would consist of evaluating the existing grading, vegetation, and

rock placement against historic photographs and restoring those features to the historic condition. Restoration of the historic landscape would result in long-term, minor, beneficial impacts to the cultural landscape.

In the short-term, construction activities, including construction of the ADA-accessible path and restoration of the historic landscaping as well as outside work on the building itself and construction of the sewerline, would result in minor, adverse impacts to the cultural landscape.

The overall impacts to cultural landscapes would be short term, minor, and adverse and long term, minor, and beneficial.

**Cumulative Impacts.** A variety of past, present, and reasonably foreseeable actions have affected and would continue to affect cultural landscapes in the park, including reconstruction of the Rim parking lot, the rehabilitation of the Rim cafeteria, restoration of historic landscapes, and the rehabilitation of the Naturalist's Residence, warehouse, and hospital. These cumulative projects would have a short-term, minor adverse impact on the cultural landscape and a long-term, moderate, beneficial impact. The preferred alternative would contribute short-term, minor, adverse and long-term, minor, beneficial impacts. The overall cumulative impacts to cultural landscapes from past, present, and reasonably foreseeable future activities, including the preferred alternative would be short term, minor, and adverse and long term, minor to moderate, and beneficial.

**Section 106 Summary.** Under 36 CFR 800, *Protection of Historic and Cultural Properties*, “an undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association.”

Under the preferred alternative, non-historic elements would be added into the cultural landscape; however, the landscaping surrounding the building would be restored. Through mitigation measures, such actions would be consistent with protection of historic and cultural properties under 36 CFR 800. After applying the Advisory Council on Historic Preservation’s criteria of adverse effect (36 CFR 800.5), the National Park Service determined that the activities proposed in alternative B would have *no adverse effect* to the historic landmark. This determination is subject to Oregon State Historic Preservation Office concurrence.

**Conclusion.** The overall impacts to cultural landscapes would be short term, minor, and adverse and long term, minor, and beneficial. The overall cumulative impacts to cultural landscapes from past, present and reasonably foreseeable future activities, including the preferred alternative would be short term, minor, and adverse and long term, minor to moderate, and beneficial.

Because there would be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the park’s establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in the park’s *General Management Plan* or other relevant National Park Service planning documents, there would be no impairment of park resources or values.

## **Historic Structures**

Treatment of the Superintendent’s Residence is for the “adaptive rehabilitation” of this historic structure. Given the fact that the structure was designed as a residence, the proposed new function would be considered an adaptive use. To achieve this goal, the primary treatment category would be

rehabilitation. However, overall treatment would also include preservation, stabilization, and restoration to varying degrees, as appropriate.

The rehabilitation alternative is considered beneficial for the preservation and maintenance of the historic fabric and historic characteristics of the structure. Without the rehabilitation alternative, general maintenance is not sufficient to bring the structure to current health and safety standards for use.

It is anticipated that the historic character of the building would be retained and preserved. The distinctive materials features and spatial relations that characterize the property would be preserved or replaced in kind. Deteriorated historic features would be repaired, and when replaced, the new feature would match the old in design, color, texture, and where possible, materials. The new interior and exterior finishes would be compatible with the historic materials and features to protect the integrity of the property and its associated landscape.

The preferred alternative would result in short-term, minor to moderate, adverse impacts to the historic structure during construction, but allow the building to be restored and maintained as a historic structure and, therefore, would provide long-term, moderate, beneficial effects for the national historic landmark.

**Cumulative Impacts.** A variety of past, present, and reasonably foreseeable actions have affected and would continue to affect historic properties in the park, including reconstruction of the Rim parking lot; rehabilitation of the Rim cafeteria; and the rehabilitation of the Naturalist's Residence, warehouse, and hospital. Cumulative impacts of the restoration and rehabilitation projects would be short term, minor, and adverse during construction and long term, moderate, and beneficial following completion of restoration. The preferred alternative would contribute short-term, minor to moderate, adverse impacts and long-term, minor to moderate, beneficial effects to cumulative effects on historic properties. The overall cumulative impacts, including contributions from the preferred alternative, would be short term, minor, adverse and long term, moderate, and beneficial.

**Section 106 Summary.** Under 36 CFR 800, *Protection of Historic and Cultural Properties*, "an undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association."

Under the preferred alternative, the historic structure would be renovated. Such action is consistent with protection of historic and cultural properties under 36 CFR 800. After applying the Advisory Council on Historic Preservation's criteria of adverse effect (36 CFR 800.5), the National Park Service determined that the activities proposed in alternative B would have *no adverse effect* to the historic landmark. This determination is subject to Oregon State Historic Preservation Office concurrence.

**Conclusion.** The preferred alternative would result in short-term, minor to moderate, adverse impacts and a long-term, moderate, beneficial effect to the historic structure. The overall cumulative impacts, including contributions from the preferred alternative, would be short term, minor, adverse and long term, moderate, beneficial.

Because there would be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the park's establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in the park's *General Management Plan* or other relevant National Park Service planning documents, there would be no impairment of park resources or values.

## **Health and Safety**

The proposed action would provide for stabilization and adaptive reuse of the Superintendent's Residence for use as a science and learning center. The building is currently uninhabitable and does not meet current safety requirements for electrical, mechanical, fire, and seismic criteria.

Under the preferred alternative, the Superintendent's Residence would meet safety standards for electrical, mechanical, seismic, accessibility, and fire protection, allowing for safe occupation of the building. Rodent and wildlife infestation would be abated reducing safety and health risks to its occupants. Removal of the oil furnace and tank would reduce risk of contamination to the environment. The general condition of the structure would be improved. Once complete, the building would be occupied during the summer season by a small scientific and education staff, and periodic occupation by groups and park maintenance staff. The building would also be open to the general public. The selection of the preferred alternative would result in potential short-term, negligible impacts to construction workers and long-term, minor, beneficial impacts to visitors and employees.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects with this proposed project include: the waterline replacement from Munson Springs to Garfield, the reconstruction of the Rim parking lot, and the lagoon project at Munson Valley. These construction projects would represent a potential short-term, negligible, adverse impact to the health and safety of construction workers and a long-term, negligible to minor, beneficial impact to visitor and employee health and safety. The overall cumulative impacts, including contributions from the preferred alternative, would result in short-term, negligible impacts to construction workers and long-term, negligible to minor, beneficial impacts to visitors and employees.

**Conclusion.** The selection of the preferred alternative would result in potential short-term, negligible impacts to construction workers and long-term, minor, beneficial impacts to visitors and employees. The overall cumulative impacts, including contributions from the preferred alternative, would result in short-term, negligible impacts to construction workers and long-term, negligible to minor, beneficial impacts to visitors and employees.

## **Park Operations**

Under the proposed action alternative, the Superintendent's Residence would receive deferred maintenance and rehabilitation treatments allowing for the preservation, stabilization, and adaptive reuse of the building as a science and learning center. The building would be brought into compliance with safety standards for electrical, mechanical, seismic, accessibility, and fire protection.

The proposed restoration of the structure would remedy the existing maintenance needs, as well as help to keep ongoing operating and maintenance costs to a minimum for the short term. Efforts would be made with all mechanical systems and building envelope treatments to reduce construction and operating costs as much as possible while maintaining historical integrity, aesthetics, comfort, simplicity of operation, ease of maintenance, sustainability, and low environmental impact.

Careful coordination and phasing of the rehabilitation process would enable substantial long-term energy savings and lowered maintenance costs by incorporating more modern and efficient materials

and systems at the same time necessary maintenance and structural improvements are made. Additional insulation and vapor barriers along with improved structural integrity would result in efficiencies in the reduced size and capacities of mechanical systems required. New heating ductwork and plumbing piping would be insulated, as well as locating low-point drains for improved access for winterization. Energy efficient systems and low-flow fixtures would be incorporated wherever possible. This would result in long-term and short-term, minor, beneficial effects to park operations.

During the construction work, there would be a need for park personnel to provide oversight that would result in a minor, short-term, adverse impact to park operations. After rehabilitation, the proposed action would result in modest increases to ongoing maintenance costs due to a more consistent pattern of use and a longer operating season.

Under the proposed use as a science and learning center, it would be desirable for the building to open earlier in the spring and remain open later in the fall. It is estimated that it would require two people a half-day each to perform activities needed for opening the building in the spring and winterizing it in the fall. During the winter months, the building interior would be maintained at 45°F in order to prevent ice dams from forming on the eaves, which could cause both structural and cosmetic damage. Costs are estimated at \$328,000 annually for staffing and operations. Costs for equipment, staffers, utilities, and maintenance would come from a variety of public and private sources (NPS Prospectus, Crater Lake National Park Science and Learning Center, date unknown).

The extended operational season would primarily affect maintenance costs and park operations as they relate to the potential need for additional snow removal to provide access to the structure and staffing for coordination of building use and oversight of needs of groups using the building. The science and learning center is proposed to operate from March through October. This would result in long-term and short-term, minor, adverse impacts to park operations.

The combination of rehabilitation and the plans for an extended operational season are expected to both benefit and tax park operations. Many deficiencies in the building would be remedied, but the extended uses, both in duration and nature, would require greater day-to-day staff and maintenance attention. Taken together, the overall impact on park operations from the preferred alternative would be short-term, minor, and adverse and long-term, negligible to minor, and adverse.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects to park operations include the rehabilitation of the Naturalist's Residence, warehouse, and hospital; reconstruction of the Rim parking lot and rehabilitation of the Rim cafeteria; waterline replacement from Munson Springs to Garfield; and the lagoon project at Munson Valley. These projects would result in short-term, minor, adverse impacts to park operations and a long-term, negligible to minor, beneficial impact to park operations. The preferred alternative would contribute minor, short-term, adverse impacts and long-term, negligible to minor, adverse impacts. The overall cumulative impacts, including contributions from the preferred alternative, would be short term, minor, and adverse and long term, negligible, beneficial impacts to park operations.

**Conclusion.** The overall impact on park operations from the preferred alternative would be short term, minor, and adverse and long term, negligible to minor, and adverse. The overall cumulative impacts, including contributions from the preferred alternative, would be short term, minor, and adverse and long term, negligible, beneficial impacts to park operations.

## **Visitor Use and Experience**

While access to the interior of the Superintendent's Residence is not currently provided to the general public or as part of the proposed action, it remains as one of the finest examples of rustic architecture in the country. Because of its historic and architectural significance, the building is a point of interest along the Park Headquarters Historic Walking Tour. Under the preferred alternative, the Superintendent's Residence would receive maintenance and rehabilitation treatments allowing for the preservation, stabilization, and adaptive reuse of the building as a science and learning center. The building would be brought into compliance with safety standards for electrical, mechanical, seismic, ADA, and fire protection.

Short-term effects to visitor experience at this point along the Historic Walking Tour would be expected during construction due to increased traffic, noise, and visual encroachment of the building exterior associated with construction activities while rehabilitation efforts are underway. These effects would be short term, minor, and adverse.

Upon completion of the rehabilitation, the preferred alternative would allow for the preservation and stabilization of a historically and architecturally significant park structure and provide for the accessibility and adaptive reuse of the structure. A small increase in traffic would be expected for scientists working at the learning center, and occasional education groups. The building would be open to the general public as well.

Part of the purpose of Crater Lake National Park is to offer opportunities for education and inspiration. Consequently, one of the park's management goals is to ensure that visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities. The rehabilitation of the Superintendent's Residence would also support the significance of the park for scientific study and opportunities for students and educators. Overall, this would result in a long-term, minor, beneficial, impact.

**Cumulative Impacts.** Past, present, and future projects identified that may contribute to cumulative effects with this proposed project include rehabilitation of the Naturalist's Residence, warehouse, and hospital; reconstruction of the Rim parking lot and rehabilitation of the Rim cafeteria; and Park Headquarters Historic Walking Tour. The cumulative projects would provide a long-term, minor to moderate, beneficial impact to visitor use and experience, although there would be short-term, negligible, adverse impacts from the construction activities. The preferred alternative would provide short-term, negligible, adverse contributions and long-term, minor, beneficial contributions to the cumulative impacts. The overall cumulative impacts, including the preferred alternative, would be short term, negligible, adverse, and long term, minor to moderate, beneficial to visitor use and experience.

**Conclusion.** The short-term impacts on visitor use and experience as a result of the preferred alternative would be adverse and negligible. The long-term effects to visitor use and experience would be beneficial and minor. The overall cumulative impacts, including the preferred alternative, would be short term, negligible, adverse and long term, minor to moderate, beneficial to visitor use and experience.



## **CONSULTATION AND COORDINATION**

Agencies and organizations contacted for information or that assisted in identifying important issues, selecting alternatives, or that will be given an opportunity to review and comment on this environmental assessment include the following:

### **Federal Agencies**

National Park Service  
U.S. Department of Agriculture – Natural Resources Conservation Service  
U.S. Environmental Protection Agency  
U.S. Fish and Wildlife Service

### **State and Local Agencies**

Division of Environmental Quality  
Oregon Fish and Wildlife  
Oregon Natural Heritage Program  
Oregon State Historic Preservation Office

### **Native American Tribes**

Cow Creek Band of Umpqua Tribe of Indians  
Klamath Tribes



## **COMPLIANCE WITH FEDERAL AND STATE REGULATIONS**

For the no-action alternative, no permits would be required and there would be no compliance issues with federal and state regulations.

Prior to implementation, the National Park Service preferred alternative would require concurrence from the Oregon State Historic Preservation Office that the project would not have an adverse effect on the historic structure. No other permits or approvals would be required for the project.



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This environmental assessment was prepared by engineering-environmental Management, Inc., under the direction of Mr. Charles V. Lundy, Superintendent, Crater Lake National Park. Mr. Lundy, Crater Lake National Park staff, and National Park Service staff provided invaluable assistance in the development and technical review of this environmental assessment, and include:

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- Executive Order 11991: Protection and Enhancement of Environmental Quality.
- Farmland Protection Policy Act of 1982, P.L. 97-98.
- Federal Water Pollution Control Act (commonly referred to as Clean Water Act), P.L. 92-500, 33 USC § 1251 *et seq.*, as amended by the Clean Water Act, P.L. 95-217.
- Fish and Wildlife Coordination Act of 1958, as amended, P.L. 85-624, 72 Stat. 563, 16 USC § 661 *et seq.*
- National Environmental Policy Act of 1969, P.L. 91-190, 83 Stat. 852, 42 USC § 4321 *et seq.*
- Protection and Enhancement of Environmental Quality, E.O. 11514, as amended, 1970, E.O. 11991, 35 *Federal Register* 4247; 1977, 42 *Federal Register* 26967).
- Resource Conservation and Recovery Act, P.L. 94-580, 30 Stat. 1148, 42 USC § 6901 *et seq.*
- Secretarial Order 3175, Departmental Responsibility for Indian Trust Resources.
- Soil and Water Resources Conservation Act of 1977.
- Watershed Protection and Flood Prevention Act, P.L. 92-419, 68 Stat. 666, 16 USC § 100186.
- The Wilderness Act of 1964

## DEPARTMENT OF INTERIOR / NATIONAL PARK SERVICE ORDERS AND GUIDANCE

- Director's Order – 2: *Planning Guidelines*
- Director's Order – 12: *Conservation Planning, Environmental Impact Analysis and Decision-making*
- Director's Order – 24: *NPS Museum Collections Management*
- Director's Order – 28: *Cultural Resource Management Guideline*
- Director's Order – 77: *Natural Resource Management Guideline*
- *2001 Management Policies*
- *Secretary of the Interior's Standards for Rehabilitation of Historic Properties*





As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. Administration.

